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TYPES OF INSANITY

FROM PHOTOGRAPHS TAKEN IN THE DEVON COUNTY LUNATIC ASYLUM

For Description of the first seven Cases, see the Appendix

A MANUAL

OF

PSYCHOLOGICAL MEDICINE

CONTAINING

THE LUNACY LAWS, THE NOSOLOGY, ÆTIOLOGY, STATISTICS, DESCRIPTION, DIAGNOSIS, PATHOLOGY, AND TREATMENT

OF

INSANITY

With an Appendix of Cases

BY

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FORMERLY LORD CHANCELLOR'S VISITOR OF LUNATICS

AND BY

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FOURTH EDITION

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PREFACE

TO THE

FIRST AND SECOND EDITIONS

The Authors of the following pages have long felt the want of a systematic treatise on Insanity, adapted to the use of students and practitioners in Medicine. Numerous monographs and works on limited portions of Psychological Medicine have appeared of late years. They are of great value to the specialist physician, but they do not meet the oft-repeated inquiry of the student and practitioner,—"To what systematic treatise on Insanity can I refer?" Dr Prichard's excellent 'Treatise on Insanity' has undoubtedly been the one which hitherto has most nearly afforded the desired information; but it was written a quarter of a century ago, at a time when the Treatment of Insanity bore an aspect entirely different from its present one; and, moreover, it is now out of print.

A knowledge of the nature and treatment of Insanity is now expected of every well-educated man. The India Board require it of all persons to whom medical appointments are given under their new system of competitive examination. It is reasonable to expect that the good example thus set will be followed in other quarters; and a desire to obtain a competent knowledge of this important branch of medical practice has become far more general in the profession than it ever before has been.

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The Authors are aware that no amount of reading can render it safe to dispense with a clinical knowledge of mental disease. Their aim has been, to supply a text-book which may serve as a guide in the acquisition of such knowledge, sufficiently elementary to be adapted to the wants of the students, and sufficiently modern in its views and explicit in its teaching to suffice the demands of the practitioner.

How far the Authors have succeeded in their purpose, it remains for their readers to determine; of their shortcomings none can be more sensible than they are themselves.

1858 *and* 1862.

PREFACE

TO THE

THIRD EDITION

The Authors of this Manual have to explain that the active development of Psychological Medicine during recent years has compelled them to amplify their work. The great principle that Mental Disease depends solely upon cerebral conditions, which was systematically taught in these pages fifteen years ago, has now become so thoroughly established that it is no longer questioned. Its full recognition, however, has been followed by such activity of observation and research that the field of inquiry has been extended in every direction, and at the present time it may truly be said that new opinions, new forms of Insanity, and new remedies have been and are being multiplied at a rate which far outstrips the steady march of consolidated knowledge. As the field of inquiry extends, the crop of good results is more difficult to garner. The history of a text-book must follow that of its science. While this is expanding, it must enlarge; when this is consolidating, it may contract. At the present time Psychological Science is undergoing a most notable process of expansion, and there is no sign that it will ever again be "cribbed, cabined, and confined" by dogmas, either legal or theological, nor any indication that its bounds will be circumscribed by any limits more narrow than man's powers to

investigate the secrets of organisation. Practically, however, Psychological Medicine has to teach what is known of Mental Disease and how to deal with it, and to this the Authors have endeavoured to restrict themselves; and while they have felt bound to mention many opinions which are yet under discussion, and many observations which still need verification, they have striven so to present these to the reader that he may be able to distinguish the yet unstable from the solid ground of knowledge.

The Authors have only to add that they have gladly availed themselves of the practical knowledge of Cerebral Histology possessed by one of its most successful investigators, Dr J. Batty Tuke, of Edinburgh, who is the writer of the histological portion of the chapter on Pathology, and that the authorship of the volume is divided, as before, between Dr Bucknill and Dr Daniel Hack Tuke—the chapters on the Lunacy Laws, Classification, Ætiology, Statistics, and Description of the Various Forms of Insanity, being written by Dr D. H. Tuke, and the chapters on Diagnosis, Pathology and Treatment, with the Appendix of Cases, by Dr Bucknill.

November, 1873.

PREFACE

TO THE

FOURTH EDITION

In this their fourth edition the Authors have carefully revised the work for the purpose of bringing it up to the knowledge of the day. From the great mass of matter which has been published on the subject of Insanity they have endeavoured to embody what appears most important and trustworthy, and they have striven to give to their fellow labourers in this field of research their full credit, whether it be for probable hypothesis or for proved fact. Their own opinions have been worn here and strengthened there by the friction and growth of five years of additional experience, but substantially they remain the same, and the details of change are scarcely worthy of comment.

The same division of labour has taken place as in former editions, and the Authors have again received the valuable assistance of Dr Batty Tuke, who has contributed that portion of the sixth chapter which relates to the Histology of Insanity, and which has been illustrated by new plates.

London
June, 1879.

CONTENTS

CHAPTER I

LEGAL ENACTMENTS IN REFERENCE TO THE INSANE, INCLUDING THOSE SPECIALLY AFFECTING MEDICAL MEN

PAGE

Private and pauper lunatics 1
Definition of terms employed 5
Medical certificates 6
Actions against medical men 8
Penalties 10
Single patients 11
Chancery single patients 13
Payments for visiting lunatics in special cases . . . 14
Order for the reception of pauper and private patients . 14, 15
Statement 15, 16
Form of medical certificate 16
Boarders 17
Pauper lunatics not in asylums 17
Select Committee, House of Commons, 1877 . . . 17

CHAPTER II

OF INSANITY IN GENERAL

Section I.—Synonyms and Definition 18
1. Synonyms—English, Hebrew, Greek, Latin, Italian, French, German 18
2. Definition. Difficulties of attempting it. Illustrations—Locke, Cullen, Combe, Spurzheim, Lélut, Conolly, Guislain, Morel. Essentials of a definition—Copland, Bucknill . . 19
Legal definitions—Non compos mentis. Lunatic. Unsound mind. Partial Insanity. Unthrifts and prodigals. Lucid interval 25

PAGE

SECTION II.—Classification 27

1. Various methods of classification proposed, and why. The Symptomatological, Psychological, Physiological, Ætiological, Pathological 27

2. Ancient classifications—Hippocrates, Celsus, Roman Law, Cicero, Aretæus, Cælius Aurelianus, Galen . . 29

3. Modern classifications—Sauvages, Vogel, Linnæus, Cullen, Arnold, Crichton, Pinel, Esquirol, Conolly, Laycock . 31

Proposed Physiological classification . . . 34

Parchappe, Aug. Voisin, Falret . . . 35

Heinroth, Idler, Hoffbauer, Prichard, Bucknill, Griesinger, Maudsley 36

Jacobi, Nasse, Friedreich, Flemming, Bell, Belhomme, Van der Kolk, Morel, Skae, Batty Tuke, Clouston, International Congress of Alienists, Committee of Medico-Psychological Association . . 37

Proposed Psychological classification . . . 46

Proposed Symptomatological classification . . 48

John Stuart Mill, Professor Whewell . . . 51

Proposed Somato-ætiological or Pathogenetic classification (see also p. 310).

SECTION III.—Ætiology 54

Predisposing and exciting causes of Insanity—

1. Predisposing—Hereditary predisposition. Constitution or Diathesis. Consanguineous marriages. Relative liability of the sexes to Insanity. Age. The seasons, climate, moon, occupation, town and country life, &c. Civilisation. Pauperism. Tables. Marriage . 57

2. Exciting causes—Intemperance. Epilepsy. Affections of the head and spine. Sexual vice. Fever. Ill health. Domestic troubles and grief. Religious anxiety and excitement. Disappointed affections. Fear and fright. Intense study. Political excitement and war. Franco-Prussian war. Joy and grief. Wounded feelings . 90

Relative influence of moral and physical causes. Their classification. On cause-tables . . . 103

SECTION IV.—Proportion of the Insane to the population . . 108

England, Ireland, Scotland, France, America . 114

„ V.—Relative frequency of the Various Forms of Mental Disorder 116

„ VI.—Proportion of Recoveries. Prognosis . . 118

„ VII.—Relapses 129

„ VIII.—Mortality 131

Summary as regards Prognosis . . . 135

CHAPTER III

ON THE VARIOUS FORMS OF INSANITY

PAGE

Preliminary observations 142
Necessity of studying—
a. The Physiology of the Nervous System . . . 142
b. Psychology 142
c. The Disorders of the Nervous System generally . . 145
Form for case-taking 147
Memoranda for case-book 148
SECTION I.—Idiocy, Imbecility, and Cretinism . . . 149
„ II.—Dementia 176
„ III.—Delusional Insanity 194
„ IV.—Melancholia 215
„ V.—Partial Exaltation or Amenomania . . . 234
„ VI.—Moral or Emotional Insanity (proper) . . 239
„ VII.—Homicidal Mania 254
Legal tests of responsibility . . . 269
Hints in giving evidence . . . 271
„ VIII.—Suicidal Mania or Insanity . . . 272
„ IX.—Kleptomania 278
„ X.—Erotomania 282
„ XI.—Pyromania 284
„ XII.—Dipsomania 287
„ XIII.—Mania 292
SUPPLEMENTARY NOTE—
Handwriting and Composition of the Insane . . . 305

CHAPTER IV

BRIEF SKETCH OF THE VARIOUS FORMS OF INSANITY FROM A SOMATO-ÆTIOLOGICAL POINT OF VIEW

Somato-ætiological or Pathogenetic Classification of Mental Disorders according as they arise from—
I. Primary disease or defect of the encephalon.
II. Disease or developmental changes in other organs.
III. Poisons.
Congenital or Infantile Deficiency 311
Traumatic Insanity 311
General Paralysis or Paresis 312
Insanity following Apoplexy 333
Epileptic Insanity 336

PAGE
Senile Insanlty 345
Pubescent Insanity 345
Masturbatic Insanity 346
Uterine and Ovarian Insanity 349
Hysterical Insanity 349
Insanity of Gestation or Pregnancy 352
Puerperal Insanity (proper) 355
Insanity of Lactation 363
Climacteric Insanity 366
Insanity from abdominal disorders 368
Post-febrile Insanity 371
Insanity with rheumatism and with cardiac disease . . 373
Insanity and gout 380
Insanity associated with phthisis 382
Insanity after syphilis 387
Alcoholic Insanity 391
Pellagrous Insanity 397
Cretinism 400
Epidemic Insanity 400

CHAPTER V

DIAGNOSIS OF INSANITY

General remarks 402
Difficulties of inquiry 404
Diagnostic value of hereditary tendency . . . 405
Of previous attacks 406
Of change of habits and disposition 406
Manner of examination 410
Peculiarities of residence and dress, bodily condition, and gesture 412—116
The physiognomy of Insanity 418
Demeanour towards the patient 424
Diagnosis of Dementia 425
„ Mania 431
„ Mania from Sanity 438
„ Eccentricity 443
„ Melancholia 445
„ Hypochondriasis 451
„ Monomania 454
„ Moral Insanity, Homicidal Insanity, &c. . . 458
„ General Paralysis 462
Detection of Feigned Insanity 468
„ Concealed Insanity 476
Diagnosis of recovery 479

CHAPTER VI

PATHOLOGY OF INSANITY

PAGE

Physiological basis 489
Nature of pathological conditions 494
Analogy between Dreaming and Insanity . . . 503
„ between Intoxication and Insanity . . . 504
State of brain in Insanity formulated . . . 506-7
Hyperæmia 507
Anæmia 515
Relation of vascular and cellular changes . . . 518
Cerebral Atrophy—Table 521
Insanity by sympathy 533
Monomania 537
Special changes—Webster, Morgagni, Bonetus, Boerhaave, Haller, Greding, Meckel, Soemmering, Arnold, Portal, Pinel, Esquirol, Foville, Bayle, Calmeil, Lélut, Leuret, Guislain, Parchappe, Griesinger—Microscopic research 541
Our own pathological observations—
The Scalp and Cranium 566
The Dura Mater, Arachnoid, and Pia Mater . . . 569
The Cerebral substance 577
Cerebral atrophy, induration, and hypertrophy . . 577
Inflammation, congestion, and anæmia of the cerebral substance 583
Œdema of the Brain 587
Specific gravity of the Brain 587
Disease of the Heart, Lungs, Stomach and Intestines, Liver, Spleen, Kidneys, and the Reproductive Organs. Bed-sores, or asthenic gangrene 589
The Humoral Pathology of Insanity—the Blood, the Urine . 597
The Chemical Pathology of the Brain 600
The Pathology of General Paralysis 600

CHAPTER VI (*continued*).

MORBID HISTOLOGY

Normal Brain structure 610
Vascular supply 611
Nerve-cells 612
Neuroglia 612

PAGE

Lesions in Brains of the Insane—
1. The membranes 613
2. The epithelium 616
3. The blood-vessels 616
4. The neuroglia 623
5. The cells 627
6. The nerve-fibres 629
7. Special morbid conditions of the grey matter . . 629
8. Appearances in General Paralysis and Senile Dementia . 631

CHAPTER VII

TREATMENT OF INSANITY

General observations 634
Pinel's principles 637
Esquirol's improvements 640
Prophylaxis 643
Insane diathesis 643
Marriage 647
Treatment at the outbreak—in private or in asylum . 648
Choice of asylum 650
Attendants for the Insane 654
The moral treatment of the Insane 660
Mechanical restraint and seclusion 674
Treatment of violence 678
„ in asylums 679
Classification in asylums 680
Food and work 684
Balls, concerts, and theatrical entertainments . . 690
Removal from an asylum 691
The domestic treatment of the rich 693
The cottage treatment of the poor 696
The medicinal treatment 698
Bleeding 699
Tartrate of antimony 701
Mercury 703
Opium 704
Hypodermic injection 717
Hyoscyamus 718
Conium 719
Chloral 721
Bromides of potassium, sodium, ammonium, and iron . 727
Digitalis 734
Ergot of rye 734

PAGE

Calabar bean 735
Stimulants 735
Purgatives and aperients 736
Counter-irritation and derivation 737
Tonics 738
Electricity 738
Baths 739
The Turkish or hot-air bath 743
The wet sheet or pack 744
Forced alimentation 745
Treatment of Epileptic Insanity 748
„ Hysterical Insanity 749
„ Masturbatic Insanity 750
„ Syphilitic Insanity 751
„ Puerperal Insanity 753
„ General Paralysis 754
„ Hypochondriacal Insanity . . . 757
Résumé 757

APPENDIX—
No. 1.—A. Cases illustrated by the portraits in the frontispiece 765
B. „ illustrating treatment . . . 769
C. „ „ causation and pathology . 782
No. 2.—Note on classification 790
No. 3.—Recent returns of numbers of insane, etc. . . 795
INDEX 799

ERRATA

Page 114, line 37, *after* registered *add* and at large.
„ 129, „ 16, *for* IV *read* Section VII.
„ 131, „ 25, *for* V *read* Section VIII.
„ 156, „ 20, *for* reason *read* reasons.

DESCRIPTION OF PLATES

PLATE I

For description of this Plate see Appendix, p. 765.

PLATE II

(P. 161)

For this lithograph we are indebted to Dr W. A. F. Browne, Dumfries.

PLATE III

(P. 171)

Two cretins with goître (sisters) at Bagnères-de-Bigorre, Hautes Pyrénées. Seen by Dr D. H. Tuke, March, 1878, and photographed for this work through the assistance of Dr Dejeaune, of Bigorre.

PLATES IV, V, VI, VII, VIII

(Pp. 305—309)

Fac-similes of the handwriting and specimens of the composition of the Insane.

PLATE IX

A tinted copy of Arndt's plate of a section through the grey matter of the third frontal convolution, taken from Schultz's 'Archives of Microscopical Anatomy,' 1867, vol. iii, p. 476. This plate does not show the full length of the section, as it would be impossible to give it on one page. It is accordingly shortened in its length, all the layers being somewhat thinner than they should be.

PLATE X

Fig. 1. Drawn from the injected brain of a rabbit. This specimen was prepared by Dr Carter, of Leamington. × 120. As this drawing is taken from the bottom of a sulcus the white matter is external.

Fig. 2. Transverse section of a vessel with thickened coats. × 300.

Fig. 3. A fresh specimen of a cerebral vessel treated with water only, showing the hyaline sheath, molecular deposit, and crystals of hæmatoidin. × 300.

Fig. 4. A fusiform aneurism from an uncoloured section of corpus striatum. × 120.

Fig. 5. Transverse section of a hæmorrhagic focus in the cerebral convolutions. After Mierzejewski. Hartnack, oc. 4, obj. 4.

PLATE XI

Fig. 1. Deposit of pigment in the distended lymphatic sheath of a vessel of the grey matter of the convolutions. After Mierzejewski. × 210.

Fig. 2. A vessel with its wall thickened from vitreous degeneration. Ibid. Hartnack, oc. 3, obj. 7.

Fig. 3. Tortuous course of a vessel within its lymphatic sheath. Ibid. × 210.

Fig. 4. Giant cell from the paracentral lobe of a general paralytic, with pigmentary degeneration of its protoplasm and disintegration of its nucleus. Ibid. Hartnack, oc. 3, obj. 10.

Fig. 5. Cell from the occipital lobe. Ibid. Hartnack, oc. 3, obj. 10.

Fig. 6. Cell from paracentral lobe of a general paralytic; the nucleus in process of disintegration. Ibid. Hartnack, oc. 3, obj. 10.

Fig. 7. One of the bodies found in the white substance of the convolutions, and taken for a hypertrophied axis cylinder. Ibid. Hartnack, oc. 3, obj. 10.

Fig. 8. The same, in the shape of a ribbon. Ibid. Hartnack, oc. 3, obj. 10.

Fig. 9. Pigmentary atrophy of cells from a case of senile dementia. After Major. × 300.

Fig. 10. Section of a paracentral lobe from a general paralytic, showing a cell undergoing pigmentary degeneration, and surrounded by nuclei and vacuoles. After Mierzejewski. Hartnack, oc. 3, obj. 10.

PLATE XII

Fig. 1. Amyloid bodies on the free surface and in the substance of the corpus striatum from a general paralytic. × 300.

Fig. 2. Second stage of miliary sclerosis, from the white matter of the cerebellum. × 120.

Fig. 3. Section of the white matter from a general paralytic, showing the vacuolated and ramifying elements. After Mierzejewski. Hartnack, oc. 3, obj. 10.

Fig. 4. A similar section to the preceding, but at a more advanced stage of the malady. Ibid.

Fig. 5. Section of ascending parietal convolution of a chronic maniac, showing proliferation of nuclei around a vessel and in the neuroglia. × 300.

Fig. 6. Extreme condition of colloid degeneration of neuroglia, from a section of the ascending parietal convolution from a case of Idiopathic Dementia. × 300.

A MANUAL

OF

PSYCHOLOGICAL MEDICINE

CHAPTER I

LEGAL ENACTMENTS IN REFERENCE TO THE INSANE, INCLUDING THOSE SPECIALLY AFFECTING MEDICAL MEN.

Before we treat of Insanity itself, we think it well to give a brief *résumé* of the principal enactments which have passed the legislature for the proper care and protection of the insane.* These are the indications of the interest excited in the public mind on their behalf, and have proved to be themselves the means of deepening and extending that interest. Had they effected no more than the erection of our present County Asylums, the superintendence of which devolves upon a number of able and humane medical psychologists, to whom the insane and the public are signally indebted, they would have achieved an enormous amount of good.

In the reign of Edward II it was enacted that "the King shall have the custody of the lands of natural fools, taking the profits of them without waste or destruction, and shall find them their necessaries, of whose fee soever the lands be holden; and after the death of such idiots he shall render the same to the right heirs, so that such idiots shall not aliene, nor their heirs be disinherited." It was also enacted that a portion should be "distributed for his soul by the advice of the Ordinary."†

* We have derived much assistance from the Introduction to Lumley's 'New Lunacy Acts,' Collinson on 'Lunacy,' and Fry's 'Lunacy Acts.'

† 'Lunacy Acts,' by D. P. Fry, Esq., who thinks that the person, goods, and chattels, as well as the lands of the lunatic, are referred to. See p. 147.

Various amendments were made in this Act in the years 1811, 1815, 1819, and 1825.*

In the Act passed in the first of these years, overseers were obliged to produce a medical certificate, testifying to the insanity of the patient; and returns were to be made every year by the medical superintendent of the asylum, of the patients under his care, to the quarter sessions. In the Act of 1815, provision was made for the admission into an asylum of other than pauper lunatics, should accommodation exist; and the overseers of every parish were obliged, when required by the justices, to make a return of the lunatics within their district.

The condition of pauper lunatics was again brought before the House of Commons in 1827; and in 1828† all previous statutes were repealed, and increased provision made "to facilitate the erection of county lunatic asylums and improve the treatment of lunatics."

In the year 1845‡ it was found to be absolutely necessary to enact more stringent regulations for the building of county asylums. By this Act their erection was made no longer optional; boroughs and counties were compelled to provide, within a certain period, the requisite accommodation for pauper lunatics. The operation of this Act, although not practicable to its fullest extent, has, on the whole, been highly beneficial.

Among subsequent Acts was the important enactment of 1853,§ "An Act to consolidate and amend the Laws for the Provision and Regulation of Lunatic Asylums for Counties and Boroughs, and for the Maintenance and Care of Pauper Lunatics in England" (s. 66 orders quarterly returns of lunatics not in asylums).

The enactments since 1853, in regard to *private* patients, are those relating to—(1.) *Chancery lunatics*, 18, 19 Vic. c. 13, 1855; 23, 24 Vic. c. 127, s. 29, 1860; 25, 26 Vic. c. 86, 1862; 30, 31 Vic. c. 87, s. 13, 1867; 32, 33 Vic. c. 91, s. 13, 1869; 36, 37 Vic. c. 66, ss. 17, 18, 1873; 38, 39 Vic. c. 77, s. 7, c. 87, ss. 76, 77, 88; c. 92, s. 38, 1875. (2.) *Chancery lunatics not so found by inquisition*, 25, 26 Vic. c. 84, ss. 12, 13, 14, 15, 1862. (3.) *Single patients in unlicensed houses*, 17, 18 Vic. c. 114, 1854; 25, 26 Vic. c. 111, 1862. (4.) *Licensed houses and registered hospitals*, 17, 18 Vic. c. 114, 1854; 18, 19

* 51 Geo. III, c. 79; 55 Geo. III, c. 46; 59 Geo. III, c. 127; 5 Geo. IV, c. 71.
† 9 Geo. IV, c. 40. ‡ 8, 9 Vic. c. 126. § 16, 17 Vic. c. 97.

Vic. c. 105, 1855; 25, 26 Vic. c. 111, 1862. (5.) *County and borough asylums,* 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 19, 20 Vic. c. 87, 1856; 25, 26 Vic. c. 111, 1862; 26, 27 Vic. c. 110, 1863.

In regard to *pauper* lunatics, the statutes relating to—(1.) *County and borough asylums* are 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 19, 20 Vic. c. 87, 1856; 25, 26 Vic. c. 111, 1862; 26, 27 Vic. c. 110, 1863; 28, 29 Vic. c. 80, 1865; 31, 32 Vic. c. 122, ss. 13, 43, 1868; 34, 35 Vic. c. 14, s. 2, 1871; (2.) *Licensed houses and registered hospitals,* 17, 18 Vic. c. 114, 1854; 18, 19 Vic. c. 105, 1855; 25, 26 Vic. c. 111, 1862; 31, 32 Vic. c. 122, s. 13, 1868. (3.) *Workhouses,* 25, 26 Vic. c. 111, 1862; 30, 31 Vic. c. 106, s. 22, 1867; 31, 32 Vic. c. 122, ss. 13, 43, 1868. (4.) *Lunatics receiving out-door relief,* 25, 26 Vic. c. 111, 1862; 31, 32 Vic. c. 122, 1868. (5.) *Incidence of the charge,* 19, 20 Vic. c. 15, s. 9, 1856; 22, 23 Vic. c. 49, ss. 1, 4, 7, 1859; 24, 25 Vic. c. 55, ss. 6, 7, 1861 (maintenance of all lunatics in asylums thrown upon the common fund of the Union); 28, 29 Vic. c. 79, s. 1, 1865 (Union Chargeability Act, by which the cost of *all* relief was made chargeable to the common fund of Union); 30, 31 Vic. c. 106, s. 23, 1867; 31, 32 Vic. c. 122, s. 14, 1868; 39, 40 Vic. c. 61, ss. 20, 23, 26, 1876. (6.) *The Metropolis,* 30, 31 Vic. c. 6, s. 30 (Act for the Establishment in the Metropolis of Asylums for the Sick, the Insane, and other classes of the Poor).*

In regard to *criminal* lunatics, see 23, 24 Vic. c. 75, 1860; 25, 26 Vic. cc. 86, 104, 111, 1862; 27, 28 Vic. cc. 29, 119, s. 95, 1864; 29, 30 Vic. c. 109, ss. 68, 80, 1866; 30, 31 Vic. c. 12, 1867; 32, 33 Vic. c. 78, 1869.

Lastly, in regard to *Commissioners in Lunacy* there have been, since 1853, the following enactments:—17, 18 Vic. c. 94, 1854; 18, 19 Vic. c. 105, 1855; 22 Vic. c. 26, 1859; 23, 24 Vic. c. 75, 1860; 25, 26 Vic. cc. 86, 111, 1862; 26, 27 Vic. c. 110, 1863.†

N.B.—The chief statutes comprising the existing law of lunacy are the 8, 9 Vic. c. 100, 1845, relating to licensed houses and hospitals, amended by 16, 17 Vic. c. 96, 1853; 16, 17 Vicc. 97, regulating county and borough asylums, amended.

* In 1874 a grant of 4s. a week was made by Parliament in aid of the maintenance of pauper lunatics in asylums. It is voted annually. The payment passes through the Local Government Board.

† 'Lunacy Acts,' by Danby P. Fry, Esq.

by 18, 19 Vic. c. 105, 1855; 25, 26 Vic. c. 111, 1862. The most important Acts referring to commissions of lunacy and chancery patients are 16, 17 Vic. c. 70, 1853; 25, 26 Vic. c. 86, 1862.

The meaning attached to the principal terms employed in these Acts is subjoined:

Medical attendant means every physician, surgeon, and apothecary, who shall keep any licensed house, or shall in his medical capacity attend any licensed house, or any asylum, hospital, or other place where any lunatic shall be confined (8, 9 Vic. c. 100, s. 104).

Asylum means any lunatic asylum erected under the provisions of any Act for the erection or regulation of county or borough lunatic asylums (loc. cit.).

Hospital means any hospital or part of an hospital, or other house or institution (not being an asylum), wherein lunatics are received and supported wholly or partially by voluntary contributions, or by any charitable bequest or gift, or by applying the excess of payment of some patients for or towards the support, provision, or benefit of other patients (loc. cit.).

Licensed house means a house licensed under the provisions of some Act for the reception of lunatics (loc. cit.).

Registered hospital means any hospital registered for the reception of lunatics (loc. cit.).

In connection with the foregoing statement of Lunacy Statutes, it may be useful to the general practitioner to have the main regulations stated in regard to the signing of certificates and the care of single patients—the points on which he is most liable to fall into difficulty. In regard to the giving of evidence in courts of law in criminal cases, see the close of the section on Homicidal Mania.

I. Laws regulating the admission of the insane into asylums, in regard to Medical Certificates.—1. No person (not a pauper) shall be received as a lunatic into any asylum, licensed house, or hospital without medical certificates (in addition to Order and Statement of particulars) of two persons, each of whom shall be a physician, surgeon, or apothecary (16, 17 Vic. c. 96, s. 4; c. 97, s. 74; 25, 26 Vic. c. 111, s. 23. See Schedule F, No. 2 and No. 3).

2. The term physician, surgeon, or apothecary shall mean a person registered under the Medical Act (25, 26 Vic. c. 111, s. 47). He must be in actual practice.

3. Neither shall be in partnership with or an assistant to the other (16, 17 Vic. c. 96, s. 4; c. 97 s. 74).

4. Neither shall be wholly or partly the proprietor of, or a regular medical attendant in, the house or hospital to which the patient is to be sent. Nor shall the father, brother, son, partner, or assistant of the medical man signing the certificate, be so connected with it (16, 17 Vic. c. 96, s. 12).

5. Nor shall the certifying medical man receive any percentage on or be otherwise interested in the payments to be made by or on account of any patient received into the said house (25, 26 Vic. c. 111, s. 24).

6. Nor shall he be a Commissioner or Visitor.

7. Each shall separately from the other examine the lunatic not more than seven clear days before the reception of such person into an asylum, house, or hospital (16, 17 Vic. c. 96, s. 4; c. 97, s. 74).

8. If the medical certificate be defective, it may be amended by the person signing it within fourteen days after the reception of the lunatic, provided that no such amendment shall have any force until it has received the sanction of one or more of the Commissioners (16, 17 Vic. c. 96, s. 11; 25, 26 Vic. c. 111, s. 27).

9. Under special circumstances preventing the examination by two medical practitioners, any person, although not a pauper, may be received as a lunatic into any asylum, licensed house, or hospital upon the order and with the certificate of one physician, surgeon, or apothecary, alone, provided that the statement accompanying such order set forth the above-mentioned special circumstances.

In every such case, however, two *other* such certificates shall, within three clear days after his reception into such house, be signed by medical men, each of whom not only fulfils Law 3, but is not in partnership with or an assistant to the one who signed the temporary certificate (16, 17 Vic. c. 96, s. 5; c. 97, s. 74).

Pauper lunatics.—10. No pauper shall be received into any asylum, house, or hospital, without an order (Schedule F, No. 1), under the hand of a justice, or the hands of an officiating clergyman, and the relieving officer or one of the overseers of the union or parish from which such pauper shall be sent, together with such statement of particulars as is contained in such schedule, nor without the medical certificate according to the form in Schedule F, No. 3, see pp. 16, 17 (16, 17 Vic. c. 97, s. 73), of a medical man (see Law 2), the medical examination having been

made within seven days previous to the reception of the patient (16, 17 Vic. c. 96, s. 7, and c. 97, s. 73).

11. Medical officers of unions or parishes are no longer prohibited from signing certificates in the cases of pauper lunatics belonging thereto ('Circular Letter from Commissioners,' 1853).

Special instructions regarding medical certificates (see also p. 17).

12. After the words "being a," the medical man must insert, not the word "Physician," "Surgeon," or "Apothecary," but the legal qualification, diploma, or license, entitling him to practise as such within the United Kingdom.

13. He must insert—1. The date of examination. 2. The place, with the street and number of the house (if any) or other like particulars, where the patient was examined. 3. The patient's ordinary place of residence, and profession or occupation (if any). (Omission of name of street and number of the house where examined will invalidate certificate, Fry, p. 341.)

14. When more than one medical certificate is required he must insert before the words "personally examined" the words "separately from any other medical practitioner."

15. The certificate need not be drawn up or dated on the day of examination. All that is required is that the examination be made within seven clear days before admission.

16. The medical man signing the certificate must specify therein the facts upon which he has formed his opinion, and must distinguish the facts observed by himself from those communicated to him by others—the latter alone being insufficient.*

N.B.—No medical man who signs the Order may sign the medical certificate, nor can he do so if his father, son, brother, partner, or assistant signs it (16, 17 Vic. c. 96, s. 12).

II.—Actions against medical men in regard to illegal restraint or confinement.—"By the common law of England it is only a person of unsound mind, and dangerous to himself or others, that may be restrained of his liberty by another; such is taken to be the law from the case in Br. Abr. down to the last case on the subject." Lord Cambell in *Fletcher* v. *Fletcher* (28 L. J. R. (N. S.), Q. B. 134), cited in Mr. D. P. Fry's 'Lunacy Acts,' p. 91.

In the case of *Nottidge* v. *Ripley* and *Nottidge* ('Times,' June, 1849) the Lord Chief Baron said that, "if the plaintiff was not in such a state as to be dangerous to herself or others, then the plea to that effect not having been made out, the verdict ought to be for the plaintiff," on that issue also. The Commissioners

* See 'Circular Letter of Commissioners,' 1853.

in Lunacy addressed a Letter to the Lord Chancellor on the 4th of July, in which they said—

"The object of the Lunacy Acts is not, as your Lordship is aware, so much to confine lunatics as to restore to a healthy state of mind such of them as are curable, and to afford comfort and protection to the rest. . . . Moreover the difficulty of ascertaining whether one who is insane be dangerous or not, is exceedingly great, and in some cases can only be determined after minute observation for a considerable time. . . . It is of vital importance that no mistake or misconception should exist, and that every medical man who may be applied to for advice on the subject of lunacy, and every relative and friend of any lunatic, as well as every magistrate and parish officer (each of whom may be called upon to act in cases of this sort), should know and be well assured that, according to law, any person of unsound mind, whether he be pronounced dangerous or not, may legally and properly be placed in a county asylum, lunatic hospital, or licensed house, on the authority of the preliminary order and certificates prescribed by the Acts." Fry, after citing the foregoing and producing evidence to show that the Court will not order the discharge of a lunatic upon a writ of *habeas corpus*, if dangerous to himself or others, even when the order and certificates are invalid, says, "Upon the whole, it appears that the power to restrain and confine a lunatic is limited at common law to cases in which it would be dangerous, either as regards others or himself, for the lunatic to be at large; but that the power to place and detain a lunatic in a registered hospital or licensed or other house, under an order and medical certificates duly made and obtained in accordance with the provisions of the Lunacy Acts, is not so limited. It is important, however, that those provisions should be strictly observed" (p. 319).

In 1862, at the Surrey Summer Assizes, an action was brought by *Scott* against a medical practitioner, *Wahem*, "for placing the plaintiff (who, it appeared, was suffering from *delirium tremens*) under restraint as a dangerous lunatic. It was held by Bramwell, B., that at common law, and apart from the lunacy statutes, a medical man may justify measures necessary to restrain a dangerous lunatic; and that if he be called in to attend a person suffering under *delirium tremens*, he may justify such measures as are reasonably necessary, either to cure the person so suffering or to restrain him from doing mischief, so long as the fit lasts or is likely to return" (op. cit., p. 92). A similar case, in which the Lord Chief Justice laid down the same judgment, occurred in 1863 (*Symm* v. *Fraser* and *Andrews*).

In connection with actions against medical men in lunacy cases, it is important to know the law in regard to the—

Evidence of lunatics.—Notwithstanding the dictum that neither an idiot nor a lunatic shall be allowed to give evidence except during a lucid interval (Co. Litt., b. 6), the testimony of the insane has been repeatedly admitted in courts of law, so that, as stated by Taylor, "it may now be considered as settled that a lunatic who labours under delusions, but who, in the judgment

of a medical practitioner, is capable of giving an account of any transaction that happened before his eyes, and who appears to understand the obligation of an oath, may be called as a witness." He cites *Reg.* v. *Hill*, 'Jour. of Psych. Med.,' 1851.

III. Penalties to which medical men are liable.—1. The penalty for infringing the Lunacy Acts in regard to signing a medical certificate is £20, and every person falsely stating or certifying anything, or signing a certificate as a medical man when he is not one, is guilty of a misdemeanor (16, 17, Vic. c. 96).

2. The patient himself may institute proceedings against the medical man who has signed the certificate, either on the ground that he has never examined him or not done so within seven days of his admission, or negligently. For the first cause see the 'Sixth Report of the Commissioners in Lunacy;' for the second their 'Seventeenth Report,' and for the third the last-mentioned Report also, and *Hall* v. *Semple*, 3 F. and F. 337; also Fry's 'Lunacy Acts,' p. 71. "The charge was, that Dr Semple had negligently and culpably failed duly to inquire into the truth of the facts, from which mainly he drew his conclusion that Mr Hall was insane, and in the course of the trial, which lasted five days, the law applicable to the case was fully discussed, and ably and elaborately laid down by the presiding judge. Upon being questioned by Mr Justice Crompton, the jury stated their opinion that Dr Semple *bonâ fide* believed that in what he did he was authorised by the Act, although he did it negligently; upon which Mr Justice Crompton observed :—'That is a verdict for the plaintiff on the ground of culpable negligence and want of reasonable care;' to which the jury assented."

3. If any physician or surgeon, being a Commissioner, or any physician, surgeon, or apothecary, being a Visitor, shall sign any certificate for the admission of any patient into any licensed house or hospital, or shall professionally attend any patient in any licensed house or hospital (except in acccordance with the Acts), such physician, surgeon, or apothecary shall, for each offence against this provision, forfeit the sum of £10 (8, 9 Vic. c. 100, s. 23).

4. A medical man concerned in the unlawful taking or confinement of a patient may be prosecuted by the Crown (8, 9 Vic. c. 100, s. 56).

5. Any person taking charge of a single patient for profit without order and medical certificates, as in a licensed house, shall be guilty of a misdemeanor (8, 9 Vic. c. 100, s. 90).

6. Every medical officer of a parish or union, who shall have knowledge that any pauper resident in his parish is, or is deemed to be, insane, and a proper person to be sent to an asylum, shall within three days give notice thereof in writing to a relieving officer of such parish, or, if there is none, to one of the overseers. Penalty for omitting to do this, £10 (16, 17 Vic. c. 97, s. 70).

7. If a justice knows of such a case he shall either visit him himself or direct a medical man to do so, and report in writing his opinion, and if the medical man sign a certificate (Schedule F, p. 15) it shall be lawful for the justice or justices to make an order upon the guardians of the union or overseers of the parish for the payment of such reasonable remuneration for the examination of the patient and all other reasonable expenses in or about the examination of such person as to such justice or justices may seem proper (16, 17 Vic. c. 97, s. 69).

It may be added that there are three kinds of cases contemplated in the foregoing sections, of which constables, relieving officers, and justices are bound to take cognizance, viz.:—1. Any person wandering at large and deemed a lunatic. 2. A pauper deemed a lunatic resident in the parish. 3. Any person deemed to be a lunatic, *though not a pauper*, and not wandering at large, *but who is not under proper care and control, or is cruelly treated or neglected* by any person having the care or charge of him. This includes the charge of idiots. The lunatic must be a proper person to be sent to an asylum. See in connection with the ill-treatment of lunatics by their friends, &c., R. *v.* Smith (2 C. and P. 449); Reg. *v.* Pelham (8 Q. B. 959); Reg. *v.* Marriott (8 C. and P. 425); Reg. *v.* Porter, 10 L. T. (N.S.), 306. 'Eighth Annual Report of the Commissioners in Lunacy,' pp. 36, 38, and pp. 38, 39; also 8, 9 Vic. c. 100, ss. 112, 113, and 16, 17 Vic. c. 96, s. 9, and c. 97, s. 68; but the bearing of this latter Act upon the charge of lunatics by relatives was successfully disputed in Reg. *v.* Rundle (see 25 L. 7, 118, and Fry's 'Lunacy Acts,' p. 90). Porter was convicted under c. 96, s. 9, in 1864 (*Times*, March 21).

IV.—Single patients.—1. No one deriving a profit from the charge of a patient (except a Committee appointed by the Lord Chancellor) may board or lodge him, or take the care or charge of him without the same order and medical certificates* as are required on the reception of a private patient into a licensed

* Of which a duplicate copy must be retained by the party having charge of the patient, and the original forwarded to the Commissioners.

house (8, 9 Vic. c. 100, s. 90, and 16, 17 Vic. c. 96, ss. 8, 12).

2. Any person who thus receives the patient to board or lodge or takes the care or charge of him, must, within one clear day, transmit to the Secretary of the Commissioners, 19, Whitehall Place, S.W., a copy of the above order and certificates, and a statement of the date of such reception, and of the situation of the house into which such patient has been received, and of the name and occupation of the occupier thereof and of the person by whom the care and charge of such patient have been taken (25, 26 Vic. c. 111, s. 28).

3. The person having the charge of the patient must also transmit to the Commissioners, after two clear days, and before the expiration of seven clear days, a statement of the condition of the patient according to the prescribed form signed by the medical man visiting the patient (25, 26 Vic. c. 111, ss. 28, 41).

4. The said patient must be visited at least every fortnight* by a physician, surgeon, or apothecary who did not sign either medical certificate, and does not derive, and has not a partner, father, son, or brother who derives any profit from the care or charge of such patient, and he shall also enter in a book to be kept at the house for that purpose, to be called 'The Medical Visitation Book,' the date of his visits, and a statement of the condition of the patient's mental and bodily health, and of the condition of the house in which such patient is, and such book shall be produced to the Visiting Commissioner on every visit (8, 9 Vic. c. 100, s. 90, and 16, 17 Vic. c. 96. s. 12).

5. In the event of the death, removal, discharge, or escape and recapture of such patient, the person by whom the care or charge has been undertaken, or into whose house he has been received, must transmit to the Secretary of the Commissioners the same notices as are required for a private patient in a licensed house. When transferred to other care fresh certificates and orders are not required if the consent of the Commissioners be first obtained (16, 17 Vic. c. 96, s. 20).

6. A person having the care or charge of a single patient may change his residence and remove him to a new residence in

* The Commissioners allow this visitation to be much less frequent when they see fit to do so. If this is done, and the patient is in the charge of a medical man, the latter shall, once at least in every two weeks, make an entry in 'The Medical Journal' of the condition of the patient's health, in the same way and subject to the same conditions as in the case of the visiting medical attendant (16, 17 Vic. c. 96, s. 14).

England, provided he give notice thereof and of the place of such new residence seven days before to the Commissioners, and to the person who signed the order for the reception of such patient, or by whom the last payment on account of such patient was made.

7. The patient's caretaker may also, after obtaining the consent of two of the Commissioners, take or send such patient under proper control to any specified place or places, for any definite time, for the benefit of his health, provided that before any such consent is given, the approval in writing of the person who signed the order for the reception of such patient, or by whom the last payment on account of such patient was made, be produced to such Commissioners, unless they shall, on cause being shown, dispense with the same.

8. Any person receiving or undertaking the care of such lunatic and infringing any of these enactments is guilty of a misdemeanour.

9. Every letter written by a single patient and addressed to any person other than the Commissioners must be forwarded to the person to whom it is addressed, unless the person having charge over him prohibit the forwarding of it by endorsement to that effect under his hand on the letter, in which case he shall lay all letters so endorsed before the Visiting Commissioners on their next visit. Penalty for infringement £20 (25, 26 Vic. c. 111, s. 40).

10. Any medical man visiting or having the charge of a single patient must report annually (Jan. 10, or within seven days) to the Commissioners (and oftener if they require it) the bodily and mental state of the patient (16, 17 Vic. c. 96, s. 14).

11. The costs of periodical visits by the medical attendant will fall, with all other expenses, upon the person signing the order.

V. Chancery single patients.—1. When a person has been found lunatic by inquisition, an order, signed by the Committee appointed by the Lord Chancellor, and having annexed thereto an office copy of the order appointing such Committee, shall be a sufficient authority for the reception of such person into any asylum, hospital, licensed house, or other house, without any further order or the usual medical certificates. Nor is the fortnightly medical visitation, which is ordered for single patients in unlicensed houses, required in these cases (25, 26 Vic. c. 111, s. 22).

2. If, therefore, the Committee places the lunatic so found by inquisition under the care of a medical or other person who receives profit from the charge, instead of placing him in a resi-

dence rented by him for the patient, his order, as above, is sufficient for the lunatic's reception (see Fry's 'Lunacy Acts,' p. 28).

3. As regards visitation of the patient under the care of a Committee, the Lord Chancellor can at any time direct a Commissioner or other person to visit him and report (8, 9 Vic. c. 100, s. 112). But the ordinary visitation consists of the visit of one of the Chancery Visitors four times a year—the interval between each visit not exceeding four months (25, 26 Vic. c. 86, s. 19, 20).

VI. Payments for visiting lunatics in special cases.—1. If the Lord Chancellor or the Home Secretary employ a person not a Commissioner in Lunacy to inspect or inquire into the state of any asylum, hospital, gaol, house, or place wherein any lunatic is confined, and to report to him the result of such inspection, he may be paid such sum of money as shall seem reasonable to the Lord Chancellor or the Home Secretary, as well as travelling and other expenses incurred while so employed (8, 9 Vic. c. 100, s. 113).

2. If a person has the charge of a lunatic for whom he receives no profit, the Lunacy Acts do not require medical certificates or any legal supervision, but the Lord Chancellor or Home Secretary may at any time, by an order in writing directed to the Commissioners or to any other person, require the person so addressed, to examine such lunatic and to report (8, 9 Vic. c. 100, s. 92); and payment for the trouble is to be reasonable in addition to travelling and other expenses (16, 17 Vic. c. 96, s. 33).

3. Examination of a pauper. See p. 11, No. 7 and p. 17.

Schedule (F) No. 1.

ORDER FOR THE RECEPTION OF A PAUPER PATIENT.

I, *C. D.* (*in the case of a single Justice of the Peace, or in the case of two Justices, or of a Clergyman and Relieving Officer,* We, *C. D.* and *E. F.*), the undersigned, having called to my (*or* our) assistance a Physician (*or* Surgeon, *or* Apothecary, *as the case may be*), and having personally examined *A. B.*, a Pauper (omit the words "a Pauper" when the lunatic is not a Pauper), and being satisfied that the said *A. B.* is a lunatic (*or* an Idiot, *or* a person of unsound Mind), (*add, where the lunatic is so sent,** "wandering at large;" *and in the case of a lunatic being sent by virtue of the authority given to two Justices, add,* "not under proper care and control," *or* "and is cruelly treated (*or* neglected) by the person having the

* If sent as being wandering at large, and the name cannot be ascertained, the entry "name unknown" is sufficient.

care or charge of him," *as may appear to the Justices to be the case*), and a proper person to be taken charge of and detained under Care and Treatment, hereby direct you to receive the said *A. B.* as a Patient into your Asylum (*or* Hospital, *or* House).

Subjoined is a Statement respecting the said *A. B.*:

Signed, *C. D.*, a Justice of the Peace for the County, City, *or* Borough of (*or* an, *or* the Officiating Clergyman of the Parish of).
E. F. the Relieving Officer of the Union *or* Parish of (*or* an Overseer of the Parish of).

Dated the day of One Thousand Eight Hundred and Seventy .

To Superintendent of the Asylum for the County of , *or* the Lunatic Hospital of , *or* Proprietor of the Licensed House of (describing the Asylum, Hospital, or House).

STATEMENT.

Same as for Private Patient, with the additions "Parish or Union to which the Lunatic is chargeable," and "Name and Christian Name and Place of Abode of the nearest known Relative of the Patient, and degree of Relationship (if known)."

(To be signed by the Relieving Officer or Overseer.)

MEDICAL CERTIFICATE.

Same as for Private Patient, with the omission of "separately from any other Medical Practitioner."

SCHEDULE (F) No. 2.

ORDER FOR THE RECEPTION OF A PRIVATE PATIENT.

I, the undersigned, hereby request you to receive *A. B.*, a Lunatic (*or* an Idiot, *or* a person of unsound mind), as a Patient into your Asylum (*or* House, &c.).

Subjoined is a Statement respecting the said *A. B.*

Signed, Name
Occupation (if any)
Place of Abode
Degree of Relationship (if any), or other circumstances of connection with the Patient.

Dated this day of One Thousand Eight Hundred and Seventy

To Superintendent of the Asylum *or* of licensed House or Hospital for the County (*or* Borough) of

STATEMENT.

If any Particulars in this Statement be not known, the Fact to be so stated.

Name of Patient, with Christian Name at length
Sex and Age . . . . .
Married, Single, or Widowed . . .
Condition of Life, and previous Occupation (if any)

Religious Persuasion, as far as known . .
Previous Place of Abode . . . .
Whether First Attack . . . .
Age (if known) on First Attack . . .
When and where previously under Care and Treatment . . . . . .
Duration of existing Attack . . .
Supposed Cause . . . . .
Whether subject to Epilepsy . . .
Whether Suicidal . . . . .
Whether Dangerous to others . . .
Whether found Lunatic by Inquisition, and Date of Commission or Order for Inquisition .
Special circumstances (if any) preventing the Patient being examined, before Admission, separately by Two Medical Practitioners . .

Signed, Name (where the patient signing the statement is not the person who signs the Order, the following particulars concerning the person signing the Statement are to be added):
Occupation (if any)
Place of Abode
Degree of Relationship (if any), or other circumstances of connection with the Patient

Schedule (F) No. 3.

MEDICAL CERTIFICATE.

I, the undersigned (here set forth the qualification entitling the person certifying to practise as a physician, surgeon, or apothecary, ex gra., being a Fellow of the Royal College of Physicians in London, Licentiate of the Apothecaries' Company, *or as the case may be*), and being in actual practice as a (physician, surgeon, or apothecary, *as the case may be*), hereby certify that I, on the day of , at (here insert the street and number of the house, if any, or other like particulars), in the County of separately from any other Medical Practitioner, personally examined *A. B.*, of (insert residence and profession, or occupation, if any, of the patient), and that the said *A. B.* is a lunatic (*or* an idiot, *or* a person of unsound mind), and a proper Person to be taken charge of and detained under Care and Treatment, and that I have formed this opinion upon the following grounds, viz.:

1. Facts indicating Insanity observed by myself (here state the facts).
2. Other facts (if any) indicating Insanity, communicated to me by others (here state the information, and from whom).

Signed, Name
Place of Abode

Dated this day of One Thousand Eight Hundred and Seventy.

Addenda.

Boarders.—The exceptional privileges enjoyed by boarders are provided for by 16, 17 Vic. c. 96, s. 6, and 25, 26 Vic. c. 111, s. 18; the latter extending the power to take boarders so as to include any person who may have been within the previous five years a patient in any asylum, hospital, or licensed house, or under care as a single patient.

Pauper Lunatics not in Asylums.—These, whether in workhouses, living with their relatives, or boarded out, are provided for by 16, 17 Vic. c. 97, s. 66, and 25, 26 Vic. c. 111, s. 21, which enact that they are to be visited by the medical officer every quarter, and to be included in his quarterly return. Remuneration half a crown; visits to patients in workhouses being excepted, "as the medical officer would constantly visit the workhouse in the course of his ordinary duty" (see 'Lunacy Acts,' p. 107, 130).

Select Committee of House of Commons, 1877.—This Committee, appointed at the instance of Mr Dillwyn "to enquire into the operation of the Lunacy Law, so far as it regards the security afforded by it against violation of personal liberty," has issued a Blue Book containing a large mass of evidence, followed by a brief separate Report (1878), but as yet (May) no legislation has been based upon it. For the writer's views on the legislation called for, and an analysis of the evidence, the reader is referred to an article in the 'Contemporary Review,' Oct., 1877, entitled "Legislation for the Insane."

CHAPTER II

OF INSANITY IN GENERAL

SECTION I.—Synonyms and Definition

SYNONYMS. Lunacy. Unsoundness of Mind. Mental Alienation or Derangement. Madness. Frenzy. Craziness. Woodness, used by Spencer, from a Saxon word *Woed*, mad; another Saxon word is *gemaad*, or *gæmed*, derived by some from *μαίνομαι*; but by others with some reason from the Hebrew word *mad*. Those afflicted with madness were often called "Toms o'Bedlam," or "Bedlams" (see D'Israeli's 'Curiosities of Literature'). It is stated that the old terms "innocent" and "natural" were used with discrimination; the former referring to the quite idiotic class; the latter to the half-witted, impulsive class. "A bee in his bonnet," a Scotch phrase for a slight touch of insanity; as the English say—"A kink in the head." Scotchmen also say "he's *wud*."

Shiggaon* (Heb). The Hebrew word for strength is *mad*, from which some Hebrew scholars derive our word on account of the increased strength possessed by the maniacal.

Μανία. παραπληκτος. παραφροσύνη. παραφρόνησις. παραφρονία. φρενῖτις (Gr.).

Insanitas. Insania. Vesania (from *ve*, priv., and *sanus*). Vecordia (*ve* and *cor.*). Delirium (from *deliro*, to go out of the furrow in ploughing). (Lat.)

Insania. Insanitá. Delirio. Non é sano in mente. Pazzia. (Ital.)

Délire. Folie. Insanité. Aliénation Mentale. Maladie Mentale. (Fr.)

Irresein. Irrsinn. Narrheit. Wahnsinn. Psychische Krankheiten. Krankhafte Seelenzustände. Geisteskrankheiten. (Ger.)

Under "Insanity in General" we include Idiocy; although

* See Deut. xxviii, 28; 2 Kings ix, 20; Zech. xii, 4; Jer. xxix, 26; Hos. ix, 7.

it is more usual to distinguish between Insanity and Idiocy, the former being a morbid condition induced in a person of sound mind, and the latter an original or infantile defect. When making this distinction, we may comprise them under Mental Alienation or Disease.

DEFINITION.—What Dr Johnson said of any one who should attempt to define poetry, may very properly be applied to him who attempts the definition of Insanity—namely, that such attempts at definition will only show the narrowness of the definer. We believe it to be impracticable to propose any definition entirely free from objection, which shall comprise every form of mental disorder. In regard to Insanity in general, it may be asked, as Burton asks when speaking of melancholy—"Who can sufficiently speak of these symptoms, or prescribe rules to comprehend them? As Echo replied to the painter in Ausonius, 'If you must needs paint me, paint a voice;' if you will describe it, describe a fantastical conceit, a corrupt imagination, vain thoughts and different, —which who can do? The four-and-twenty letters make no more variety of words in diverse languages, than it produces diversity of symptoms in several persons."

Who can supply an unexceptional definition of anger, or of imagination? How much more difficult, then, must the task be when we are required, in the compass of a paragraph, to define a disease which in turn assumes as many forms, not only as there are fundamental faculties liable to disease, but as many forms as these combined in endless variety can assume, and still further varied according as one or more of them may be exalted or depressed? Such are the multiform morbid mental phenomena around which the psychologist has attempted to throw his all-embracing definitions. These definitions it is our purpose now to consider, for from them, while confessing the impossibility of supplying any definition not more or less open to criticism, we may possibly draw something which will serve us at least to describe, with tolerable clearness, though it should fail to define, the essential characters of Mental Alienation.

Locke's celebrated dictum, that "madmen do not appear to have lost the faculty of reasoning, but having joined together some ideas very strongly, they mistake them for truths, and err as men do who argue from wrong principles," and which has often been referred to as an acute and satisfactory definition of insanity, has only a very partial application,—comprising merely

those cases, in fact, in which the patient is the subject of a delusion, illusion, or hallucination, and acts as he would properly act were the delusion a reality. Nor was the definition adopted by Cullen sufficiently comprehensive—"a lesion of the intellectual faculties, without pyrexia and without coma." If, in this reference to pyrexia, it be meant that Insanity must not be confounded with the derangement of the mind occurring in fever on the one hand, or phrenitis on the other, Cullen no doubt correctly enforces a distinction which conventional use, at least, sanctions; but if it be meant (as the student would be apt to understand it) that the absence of feverish symptoms is a condition necessary to the presence of Insanity, the statement is incorrect, and as the term is liable to misconstruction, we think it best to avoid it.

Dr Combe's definition possesses considerable merit. "It is a prolonged departure, and without an adequate external cause, from the state of feeling and modes of thinking usual to the individual who is in health, that is the true feature of disorder of mind." Congenital defects of mind are obviously excluded from this definition, in accordance with the very general custom—not sanctioned, however, by etymology—of regarding idiotic and imbecile conditions of mind as not insane states. Nor does his definition comprise sudden attacks of Insanity. It has the merit, however, of making the mind of the individual himself, and not that of the physician, the standard of comparison by which to determine his insanity. The same writer is happier, we think, in his definition, when he speaks of Insanity being a "morbid action in one, in several, or in the whole, of the cerebral organs; and, as its necessary consequence, functional derangement in one, in several, or in the whole of the mental faculties which these organs subserve."

Dr Spurzheim and M. Lélut both err in their definitions of Insanity, in assuming that the patient must be unconscious of his disease; the former requiring "the incapacity of distinguishing the diseased functions," and the latter that there shall be "a disorder of the passions and will, without the patient's consciousness of such disorder." M. Lélut also requires a "lesion in the association of ideas"—a symptom which, however frequently present, ought not to be allowed to constitute an essential condition.

Dr Conolly, while admitting the difficulties which attach to any attempt to define Insanity, has, however, offered a definition

which will be found to include a large number of cases, and is as follows :—"An impairment of one or more of the faculties of the mind, accompanied with, or inducing, a defect in the comparing faculty." It does not, however, comprise many of those instinctive and purely emotional acts in which the patient's comparing faculty appears to remain intact.

Dr Guislain has given the following definition of Insanity :— "It is a derangement of the mental faculties, morbid, apyrexial, and chronic, which deprives man of the power of thinking and acting freely, as regards his happiness, preservation and responsibility." Chronicity, however, is not essential to a definition of Insanity. Transitory madness—*mania brevis*—seems to be quite forgotten for the moment in such definitions, although those who give them, fully admit the occurrence of such attacks. We should also prefer the expression thinking *or* acting, instead of thinking *and* acting. The latter objection applies, also, to the last clause of the definition adopted by M. Morel, who asserts that Insanity is "a cerebral affection, idiopathic or sympathetic, destroying the individual's moral liberty, and constituting a derangement of his acts, tendencies, and sentiments, as well as a general or partial disorder in his ideas."

Whatever definition of Insanity is adopted by the student, it is all-important that he should regard bodily *disease,* including *defect,* as an essential condition; in other words, Insanity is a condition in which the intellectual faculties, or the moral sentiments, or the animal propensities—any one or all of them—have their free action destroyed by disease, whether congenital or acquired. He will not go far wrong if he regard insanity as *a disease of the brain (idiopathic or sympathetic) affecting the integrity of the mind, whether marked by intellectual or emotional disorder;* such affection not being the mere symptom or immediate result of fever or poison. That there are affections of the brain causing mental disturbance which are not comprised under Insanity does not vitiate this definition. Medical science ought not, in fact, to recognise this distinction. But for reasons not difficult to discover, custom has distinguished between the delirium of fever and the madness of alcohol on the one hand, and the frenzy of the maniac on the other. In the former instance the cause is so obviously physical, the mental condition supervening and passing away with the patient's bodily disorder, that it is regarded as a mere accident of such disease. When, however, mental derangement does not arise in the course of a bodily

disorder, or, having so arisen, remains after the cause has passed away, then, naturally enough, men look out for another term to designate morbid mental symptoms, sometimes identical with those springing directly from acute attacks of bodily disease, but which make their appearance under very different conditions. It is to meet this want that a definition has to be framed which is justly open to criticism from a scientific point of view. If it does not allow, however strictly scientific, for these exceptional cases, it fails to serve any purpose as a practical definition. If it embrace states of fever and intoxication, it comprises what a universal instinct has sought to exclude. Hence we can clearly see why chronicity and the absence of fever have been imported into the definition, and if there were no danger of understanding these phrases in some other sense than that Insanity does not include those affections which arise in the course of fever and from intoxicants, there would be no objection to their use, but from their frequently conveying quite a different idea we think them undesirable. One reason why it is more difficult now to distinguish in a definition between those insane states which spring from bodily illness and those which do not, is, that we tend more and more to connect all forms of Insanity with a previous or present affection of some organ of the body. It seems to us, however, that arbitrary as is that definition which excludes the fleeting disorders of the mind arising as complications of other diseases, the distinction is essential for practical purposes.

In Puerperal Insanity we meet with a striking example of a sort of border case, actually arising in the course of another disorder, and yet so different from the ordinary delirium of fever, so apt to continue beyond the physical state which has given rise to it, that it has passed into the category of so-called mental disorders. It may be remarked, in passing, that the horror men have of Insanity is connected with the idea that it is not the outcome or sign of any ordinary illness. It is this which has stamped—we may say branded—it, as something distinct from bodily disorders, and it will always be observed with what avidity men seize some physical cause as an *excuse* for the insanity of their relations, such as a fever, or a blow, or age, or, as in the instance just referred to, the puerperal state.

Now, if we turn to Copland's definition of Insanity, it will be found that he makes no allowance for what may be called the popular definition of the disease; and not only the popular, but generally understood definition among medical men. He

defines it as "a deviation from or perversion of the natural and healthy state of the mind, as manifested either by the moral emotions and conduct, or by a partial or general disorder of the intellectual powers and understanding." Such a definition must not, however, be blamed as being incorrect, for it is a true enough *description*, but it seems to fail in embracing mental conditions, deviating from those of health, which no one really includes under the term defined; an opposite error to that of Guislain's definition, which, unless the expressions employed be themselves carefully defined, conveys a signification that excludes cases which must be regarded as genuine examples of Insanity.

Allowing for the exceptional conditions to which we have made reference, Dr Bucknill's definition is in accordance with the foregoing. He regards Insanity as "a condition of the mind in which a false action of conception or judgment, a defective power of the will, or an uncontrollable violence of the emotions and instincts, have, separately or conjointly, been produced by disease." ('Unsoundness of Mind in relation to Criminal Acts.')

We would repeat, then, that no definition ought to require chronicity, absence of febrile action, recognisable lesion of the intellect, or unconsciousness of the disease. A paroxysm of Insanity may occur suddenly, and be of brief duration. An attack of Insanity, however strictly idiopathic, may be accompanied by feverish symptoms. It may be impossible to recognise disordered intelligence in a genuine case of Insanity. A patient may be miserably conscious of his malady; well aware that his impulses are diseased but uncontrollable.

On the other hand, the positive requirements of a definition demand the recognition of an abnormal condition of the intellectual or moral nature, or both, caused by cerebral defect or disease (either idiopathic or sympathetic). Moreover, to meet an arbitrary, if not a sentimental demand, this abnormal state must not be the passing symptom of fever, nor temporarily induced by intoxicants. We say sentimental, for, however anxious men ordinarily are to ignore Insanity in such cases as we refer to on account of the supposed stigma attaching to the disease, they are anxious to admit it in the same class of cases, when an act has been committed by their friends to escape from the consequences of which, irresistibility and consequent irresponsibility must be proved.

Shall the element of impaired will and irresponsibility form

an essential part of a definition of Insanity? It will be found that upon the answer to this question, the character of the various definitions proposed chiefly depends; in other words, its character varies in great measure according as the definer does or does not include *such an amount* of disease as renders the individual irresponsible. Two objects of a definition of Insanity are thus constantly confounded together, which ought to be kept distinct—the *medical* and the *forensic*. For medical treatment it is sufficient for the physician that cerebro-mental disease exists, however incipient it may be; but in the consideration of the punitive treatment merited by one who has committed a criminal act, the judge, assisted by a medical expert, ought to determine the extent of impairment of the will and the consequent irresponsibility of the prisoner.

Now, it is simply impossible to include both these ideas in one definition, without narrowing it too much for medical use, or making it too comprehensive for the just demands of the law. If therefore a forensic definition be required, we must add to the foregoing definition that the cerebro-mental disorder is *such as to suspend or impair the action of the healthy will.*

It is not in any definition, however, of mental derangement that the student will learn what Insanity is; and in a court of law the practitioner ought never to be so unwise as to be tempted to offer one, for as Burrows says, it is "an *ignis fatuus* which eludes and bewilders pursuit."

It is in the description of the disorder that the student will be able, as far as books can help him, to comprehend its true characteristics; and, most of all, in his actual observation of the insane. For, notwithstanding the difficulties which beset the construction of a definition, there are in practice comparatively few cases in which a difference of opinion exists as to the fact of Insanity being present in particular instances—a circumstance precisely analogous to what occurs in the exhibition of almost any of the passions or emotions of our mental constitution. Thus, while definitions of anger would differ with every definer, all would agree that anger is anger when exhibited before them. A writer of eminence has defined love to be "desire kept temperate by reverence."* But who is the wiser for such a *definition?* How different, and how infinitely superior, is the well-known *description* given by Shakespeare! Cases of Insanity certainly exist in which doubt as to their

* Quoted by Walker (with approval) in his 'Elements of Elocution.'

real nature will be experienced by the student; but the existence of these (such as graduate between reason and mental disease) is, as Sir Henry Holland observes, but a part of that law of continuity which pervades so generally every part of the creation.

The following *legal* definitions will prove useful to the reader:

Non compos mentis.—General term to include persons labouring under mental disabilities, and is the most legal according to Coke. As *compos mentis* meant "one in his senses" in Latin, the law of England adopted the phrase, *non compos mentis*, to indicate one out of his senses. Four classes were comprised under this term by Coke: 1.—Idiot, or fool natural, who from his nativity by a perpetual infirmity is *non compos mentis*. 2. A person who was of good and sound memory, and by sickness, grief, or other accident, wholly loses his memory and understanding. 3. A lunatic, *lunaticus*, who has sometimes his understanding and sometimes not, *qui gaudet lucidis intervallis*, and therefore he is called *non compos mentis* so long as he has not understanding. 4. A person who, by his own vicious act, for a time deprives himself of his memory and understanding, as he that is drunken; but such a person has no privilege by this voluntary contracted madness. (Shelford's 'Law of Lunatics.')

Lunatic.—By 8, 9 Vic. c. 100, s. 94, a lunatic "shall mean every insane person, and every person being an idiot, or lunatic, or of unsound mind." By 16, 17 Vic. c. 39, a lunatic "shall mean and include every person of unsound mind and every person being an idiot." Fry refers to the following authorities for definitions of lunacy, idiocy and insanity:—4 Rep., 124 *b*, 128 *a*; Co. Lit., 246 *b*, 247 *a*, *b*; Fitz N. B., 233 *b*; 1 Hale P. C., 29, 31; 1 Ridg. P. C., 513, 533; Blackstone, Comm.; Bacon's Abr., Brooke's Abr., Viner's Abr.; 1 Russel 'On Crimes,' 6—17, &c.

Blackstone's definition:—"A lunatic, or *non compos mentis*, is one who hath had understanding, but by disease, grief, or other accident, hath lost the use of his reason. A lunatic is indeed properly one that hath had lucid intervals; sometimes enjoying his senses and sometimes not, and that frequently depending upon the changes of the moon. But under the general name of *non compos mentis*, which Sir Edward Coke

says is the most legal name, are comprised not only lunatics, but persons under frenzies, or who lose their intellects by disease; those that grow deaf, dumb, and blind, not being born so, or such, in short, as are judged by the Court of Chancery incapable of conducting their own affairs" (Cited in Fry's 'Lunacy Acts,' p. 4).

Shelford adopts the above, and observes, "It is singular that the term *lunaticus*, which, though derived from a vulgar error, gives the title to the modern proceeding by commission, and is the only specific description of afflicted persons contained in it, is not to be found in any form of old writ."

Unsound mind.—This term, according to Shelford, seems to have been used in some statutes, and by Lord Hardwicke, in the same sense as insane; but a greater latitude appears to have been given to the meaning of these words by Lord Eldon, who said that "they imported that the party was *in some such state* as was contra-distinguished from idiocy and from lunacy, and yet such as made him a proper subject of a commission to inquire of idiocy and lunacy; and accordingly if a jury find a party to be of unsound mind and incapable of managing his affairs, it is held a sufficient finding to support a commission of lunacy."

It would probably be difficult for the Commissioners in Lunacy to discriminate between "Lunatics" and "Persons of Unsound Mind" in their Annual Report containing the number and distribution of these classes, in which the legal terms are retained, and appear somewhat tautological.

Partial Insanity in law signifies that a person is insane on one or more particular subjects only, and sane in other respects. Lord Hale admitted a partial Insanity of mind as well as a total Insanity. The former is either in respect to things, *quoad hoc vel illud insanire*,—some persons that have a competent use of reason in respect of some subjects are yet under a particular *dementia* in respect of some particular discourses, subjects, or applications; or else it is partial in respect of degrees, and does not excuse persons who commit capital acts in this state (1 Hale's P. C. 30. Shelford, op. cit., p. 6).

Unthrifts and Prodigals.—Under this head, Blackstone may be quoted:

"The Roman law goes much beyond the English. For, if a man by notorious prodigality was in danger of wasting his estate, he was looked upon as *non compos*, and committed to the

care of curators. But with us when a man on an inquest of idiocy hath been returned an unthrift and not an idiot, no further proceedings have been had. *Sic utere tuo, ut alienum non lædas* is the only restriction our laws have given with regard to economical prudence." The summing-up of the master in lunacy in Windham's case was as follows :—"Mere weakness of character, mere liability to impulse or susceptibility of influence, good or bad, mere imprudence, extravagance, recklessness, eccentricity, or immorality,—no, not all these put together would suffice, unless they believed themselves justified, on a view of the whole evidence, in referring them to a morbid condition of intellect" ('Times,' 30th Jan., 1862, cited by D. P. Fry).

Lucid interval "consists not in a mere cessation of the violent symptoms of a disorder, but an interval in which the mind, having thrown off the disease, has recovered its general habit. The party must be capable of forming a sound judgment of what he is doing, and his state of mind such that any indifferent person would think him able to manage his own affairs. Collinson 'On Lunacy,' p. 39, who refers to the following authorities in support:—Att., Gen. *v.* Paruther, 3, Bro. C. C., 444; Hall *v.* Warren, 9, Ves. Jun. 611. Fry also refers to—Groom *v.* Thomas, 2 Hagg. E. R. 433; Wheeler *v.* Alderson, 3 Hagg. E. R. 575; Wheeler *v.* Batsford, 3 Hagg. E. R. 599; Broyden *v.* Brown, 2 Add., 445, &c. Also 'Report of Met. Com. in Lunacy,' 1844, pp. 104, 105.

SECTION II.—Classification.

I. Various methods proposed, and why.—Very different arrangements have been made by different writers on Insanity, and they have grouped its varieties or forms upon opposite principles, guided in some instances by the most prominent distinguishing symptoms, in others by the mental functions whose disturbance is supposed to induce these symptoms, in others by the pathological changes occurring in the organs with which these functions are associated; and lastly, in others by the somatic causes of the various forms of Insanity. The symptomatological almost necessarily involves more or less of a psychological classification, as the pathological does a physiological one; so that the student will frequently be able to reduce

the classifications he meets with to a psycho-symptomatological, a physio-pathological, and an ætiological classification.

One great reason why there is so much apparent confusion and contradiction in the various classifications put forward is simply this,—that the subject is approached from different standpoints, all natural enough, and deserving the consideration bestowed upon them, so long as they are not regarded as separately complete, and exclusive of the others. They are not, it is true, to be jumbled together into one heterogeneous mass; and yet they are perfectly consistent one with another when their right relative position and bearing are clearly stated, and they are called by their right names. We would insist strongly on this truth. *Let us regard the subject from all sides, and not shut up every avenue of approach but one.* It is only thus that the psychology, physiology, pathology, and ætiology of Insanity can be placed (in their relation to classification) in their just proportions, and the result be a consistent whole.

Now, that which makes Insanity a subject of study at all is manifestly the symptoms which indicate its presence—nay, which constitute its existence so far as popular observation extends. These symptoms or phenomena, moreover, while to a medical man they are both mental and physical, are almost wholly mental to the ordinary observer. Remove all the physical signs of disorder, and to him the patient would still be insane. Remove the mental and retain the physical signs, and the patient would be esteemed sane, alike by the ordinary observer and the medical man.

The psychical symptoms must then inevitably arrest our attention first in the study of Insanity, and for this purpose some order in the treatment or description of these symptoms must be adopted. Without preconceived theory the observer must describe that which he sees before him. When he has done so, he can do no other than group his observations in the manner which appears the most simple, and we may say the most natural, if that can be called natural which concerns a departure from the ordinary course of nature.

In doing so we are pursuing the *symptomatological* method of classification; and inasmuch as the symptoms are psychical, the method is at the same time more or less psychological. The latter method may, however, be pursued so much more elaborately as to constitute an independent *psychological* classification side by side with the customary psychical grouping of the

varieties of mental disorder. For instance, when we speak of Emotional Insanity we adopt both a symptomatological and a psychological classification.

Our knowledge of what organs of the body, psychical states are the functions, leads naturally to a parallel classification—the *physiological.* So far as physiologists can tell us the physiology of the several centres or ganglia of which the encephalon is composed, so far we can approach the subject physiologically and adopt a corresponding classification.

A closer examination of the symptoms of the insane than that which the ordinary observer makes when he only recognises a mental disorder reveals signs of physical disease. Syphilitic symptoms, *e. g.* either are or have been present, and these being clearly not caused by the mental condition of the patient, but having preceded it, and being moreover an indication of a morbid state of the body which has conditioned the disorder of the mind, they direct our attention to another of the several legitimate modes of approaching the study of Insanity. Thence arises another method of classifying the disease; but let it not be supposed that it is an exclusive one. Such a classification is somatic, pathogenetic; and if the morbid physical condition is, in truth, the cause of the mental state, it is *ætiological.* Further, if it reveals to us the pathology of the various forms of mental disease with which distinct bodily disorders are associated, it is also a pathological classification, although this term usually describes one which professes to be founded upon certain definite morbid appearances of the brain as the organ of the mind. The strictly *pathological* is a necessary result of the physiological classification; for if we are acquainted with the structures or organs which in health subserve the normal action and manifestations of the mind, we must aim at discovering the morbid condition which proximately occasions the alteration in the mental functions, or, in other words, insane manifestations.

We now proceed to glance at the various classifications which have been proposed.

II. Ancient Classifications.—From the earliest periods more or less distinction has been made when mental diseases have been treated of. If the Father of Medicine did not venture on any classification, a learned French editor of Hippocrates considers that in his employment of terms he recognised three distinct conditions of the mind. Thus, he represents his use of *μανία* as synonymous with our Mania; his *μελαγχολία* as synonymous

with our Melancholy; his *παράνοια* as synonymous with our Dementia. But it must be admitted that the employment of these terms in the same sense is by no means constant, and it has been disputed whether Hippocrates did attach the idea of gloom or sadness to *μελαγχολία*. He appears to have used the word *φρενίτις* in the sense of a febrile affection involving the brain, but not an idiopathic inflammation of that organ.

Celsus treats of three kinds of Insanity: first, that which he calls after the Greeks phrenitis, and which is accompanied by febrile symptoms; secondly, that which begins almost without fever, is marked with sadness, and is caused by black bile; and thirdly, a form which he divides into two genera—a distinction which is especially interesting. "For some err," he observes, "in having false images, and not in their whole mind, as Ajax and Orestes are represented in poetic fables; in others the whole mind, or judgment, is affected."

The Roman law made two classes of the *dementes*, or mad: *furiosi*, those who were excited and violent; *mente capti*, those who were deficient in intellect. Cicero criticised the Greeks for their want of precision in the use of terms.

Aretæus clearly distinguishes between Melancholia and Mania; the former, he says, "does not affect all the faculties of the mind; the patients are sad and dismayed; they are without fever." He, however, held that Melancholy is only the initial stage of Mania. Aretæus likewise clearly refers to Dementia. He evidently regarded all forms of Insanity as simply modifications of the same essential disease.

Cælius Aurelianus treats of Insanity under the two heads—Mania and Melancholia; the latter he regarded as not strictly a form of Insanity; "from which disease it differs," he observes, "in that the stomach chiefly suffers, while in Madness it is the head." Under Mania he comprised delusions, of which he gives some interesting examples.

With Galen the forms of Insanity appear to have been referred either to Dementia, or, more correctly speaking, Amentia (*ανοία*), Imbecility (*μώρωσις*), Mania, or Melancholia.

From this brief reference to ancient classifications it will be seen how little of detail in this respect was attempted; at the same time there was a tolerably clear recognition of three different morbid mental conditions,—that of excitement,—that of depression,—that of fatuity. With the exception of the term Melancholia, which is based on principles alike of ætiology and

humoral pathology, the terms employed to designate the forms of mental disorder are strictly *symptomatological.*

III. Modern Classifications.—We now pass to the consideration of modern systems of classification. Those of Sauvages and Vogel were *symptomatological.*

Sauvages, in his 'Nosologia Methodica' (1763), terms his eighth class of diseases Vesaniæ, under which he comprised Hallucinationes, Morositates, and Deliria.

Vogel (1764), in his ninth class—Paranoiæ, included, among other states, those of Mania, Melancholia, and Amentia.

Linnæus (1763) called his fifth class of diseases Mentales, which he divided into three orders,—Ideales, Imaginarii, and Pathetici; a system essentially *psychological.*

Upon main divisions like these, complex and fanciful subdivisions were founded, in which very opposite affections were brought together. A reference to the classifications is not, however, without its use in showing the relation in which recent arrangements stand to them, and in indicating what, if any, progress has been made in our psychological nosology.

Such a history of opinion reflects the leading theories upon the nature of Insanity, and marks new discoveries as they take place; for example, Prichard's classification would have been impossible before the time of Esquirol and Calmeil. Cullen's classification (1772), which is symptomatological, was, in his day, regarded as clear and natural; and, doubtless, it possessed advantages over the systems of Sauvages, Vogel, and Linnæus. For his larger classes he chose external and sensible signs; rejecting conjectures respecting internal states of the body, he endeavoured to fix on the symptoms essential to the disease. But when he subdivided these classes he left this principle, and in attempting to indicate the origin of some of the varieties of the disorder, he did not elucidate the subject by his distinctions. Hence, Pinel has severely reprimanded him for dividing Mania into three divisions:—"The vain explanations and gratuitous theories which he gives respecting observed facts, by way of unravelling their mechanism, are they not opposed to the dignified and cautious course which a faithful historian of mental disorders ought to impose upon himself?" He placed mental disorders in the class Neuroses, and under the order Vesaniæ; in which it was intended to include those disorders in which the judgment is impaired without coma or pyrexia. These he referred to four great divisions, viz.:—Amentia,

Melancholia, Mania, and Oneirodinia. Amentia might be either congenital, senile, or acquired. Melancholia, by which he implied partial insanity, comprised eight principal varieties; some involving hallucinations of a painful, others of a pleasurable nature, and including Dæmonomania, Nostalgia, and Erotomania. Mania, by which he understood a general insanity (Insania Universalis), had a threefold division, according as the cause appeared to be mental, corporeal, or obscure. Oneirodinia, the last of Cullen's divisions, included somnambulism and nightmare.

It is noteworthy how these early nosologists thoroughly recognised Insanity as a disease constituting but one division of the Neuroses—one order of that great class. Had this been kept more prominently and steadily in view by medical psychologists, that isolation of mental from other affections of the nervous system which has been so injurious in cutting them off from other bodily diseases would not have occurred, and we should not have found Burrows, in his excellent 'Commentaries,' appearing to doubt whether it is not rather to be classed among disorders of the vascular than the nervous system.

Dr Arnold, in his 'Observations on Insanity' (1782), gave a classification of mental disorders which was eminently *psycho-symptomatological*. It was ingenious, but too elaborate.

His main divisions were into *Ideal, Notional,* and (a sub-class) *Pathetic Insanity*. The first included four, the second eight, and the third sixteen forms of Insanity. *Mania* was comprised under Ideal, *Delusive Insanity* under Notional, and the varieties of *Melancholia* under Pathetic Insanity. He based his terms Ideal and Notional on the theory that the objects of sensation are represented in the mind by *ideas*, or images, while the mental states which arise from the exercise of the faculties in reflecting upon sensible objects or the operations of the mind may be called *notions*. The former included false *perceptions;* the latter false *conceptions*.

Pinel classified mental diseases symptomatologically under four great divisions—Mania, Melancholia, Dementia, and Idiotism. It is necessary to state the sense in which he employed these terms. That of Mania corresponded essentially to our use of the word. The most important observation which he made in reference to the forms of mental disease was the recognition of a form of mania without delirium, *i. e.* disorder of the understanding. Melancholia he described as a delirium which is exclusively

directed upon one object, or series of objects, accompanied by sadness. Dementia implied weakness of the Understanding and Will; while Idiotism did not answer to our Idiocy, but was rather an advanced stage of Dementia. Pinel refers to the facts which he and other psychologists had collected, as "the only basis upon which can be established any system of nosology founded in nature." He thought we ought to follow the course pursued by Naturalists—first consider the particular symptoms with the greatest attention, then bring together a large number of observations, and group them together according to their points of agreement.

Esquirol extended, and, in some particulars, undoubtedly improved the classification of his master. He thus describes the one he adopted:

1st. Lypemania (melancholy of the ancients); disorder of the faculties with respect to one or a small number of objects, with predominance of a sorrowful and depressing passion.

2nd. Monomania; in which the disorder of the faculties is limited to one or a small number of objects, with excitement and predominance of a gay and expansive passion.

3rd. Mania; in which the insanity extends to all kinds of objects, and is accompanied by excitement.

4th. Dementia; in which the insensate utter folly, because the organs of thought have lost their energy and the strength requisite for their functions.

5th. Imbecility or Idiocy; in which the conformation of the organs has never been such that those who are thus afflicted can reason justly.

It will be seen that this author recognised a just distinction between Dementia and Imbecility or Idiocy, which Pinel did not. He introduced the terms Lypemania and Monomania.

Dr Conolly, in his Lectures, has treated of Insanity under the generally recognised symptomatological forms of Mania, Melancholia, Dementia, &c. He observes, that "all forms of mental disorder are dependent on one of three states of the nervous system; a state of increased, or diminished, or a state of unequal excitement of that system;" and that "all other forms of Insanity appear to be mere varieties, or complications, or results."

Professor Laycock has attempted to base one classification upon a strictly *physiological* basis. It consists of Disorders of (1) the encephalic centres subservient to the instincts and animal propensities, *i. e.* the medulla oblongata, cerebellum, and poste-

rior lobes of hemispheres; (2) those centres subservient to the emotions and sentiments, *i. e.* the ideagenic or sensorial substance of the cerebellum and hemispheres; and (3) those subservient to the knowing and representative faculties (intellect), *i. e.* the nerves of the senses, their ganglia, and the ideational centres in the cerebral (and cerebellar ?) hemispheres.

The student may have, however, for some time to be content with simply regarding Affections of the Mind—seeing that those changes which cause paralysis of motion or sensation do not necessarily cause mental disorder, and changes which do not lead to any obvious disturbance of motility or sensibility may cause the most profound mental disorder—as divisible, from this point of view, according as they arise from such defect or disease of (1) the cerebral hemispheres, as induces Idiocy, Dementia, &c.; or from such defect or disease combined with disorder of (2) the sensory tract, ganglia or nerves, as exhibited in hallucinations and illusions; or combined with disturbance of (3) the motor tract or ganglia, as exhibited in General Paralysis and Insanity with ordinary Paralysis. Wherever the mental functions reside, *there* is the immediate seat of their derangement, *i. e.* Insanity; and any physiological system of classification must be dependent upon the knowledge afforded us on this subject by physiologists. If the views which, according to Ferrier, flow from his researches into the functions of the brain be established, the mode of expressing this classification would be different, inasmuch as he does not regard one part of the brain as the organ of the mind, and another part as an organ of motion, &c., but the same parts as having both a subjective and objective function; physiological and psychological functions of the brain being, on this hypothesis, only different aspects of the same anatomical substrata. It is in harmony with the endeavour to reduce mental phenomena, in the last analysis, to their motor and sensory physiological equivalents, as leading the way to a localisation of mental function, and therefore the correlation of morbid cerebral and morbid mental conditions, out of which a classification may be possible. Thus, Mental Disorders might be classified under two instead of three great divisions, Sensory Psychoses and Motor Psychoses. In the former would be included all forms of Insanity in which feeling and emotion and the power of sensory perception and ideation are more particularly involved (hallucinations, and conduct determined thereby), the posterior

parts of the brain, as experiments seem to show, being the centres; while the latter would comprise those forms in which the higher intellectual faculties are affected as also motor power, the anterior lobes, here, being, in all probability, the centres.

An example of classification founded strictly on pathological anatomy is afforded by that of M. Parchappe, who adopted the following division:

Monomania.	Insanity with Paralysis.
Acute Mania and Melancholia.	„ „ Epilepsy.
Chronic Insanity.	

It must, however, be admitted that we are not yet in a position, as regards our knowledge of the morbid appearances of the brain, to base our nosology upon the revelations of the deadhouse, whether with or without the microscope; we can only await an advance of knowledge, which will render a strictly speaking anatomico-pathological classification possible, although an approach to it in the form of a pathogenetic or somato-ætiological one may be adopted.

Recently, M. Aug. Voisin has made a bold attempt in the same direction as Parchappe, but his classification is, to some extent, pathological in the broad pathogenetic sense, as well as the narrow anatomical one. Referring to systems based on ætiology, and ridiculing their pathological pretensions, he instances "Alcoholic Insanity," in which, with a common cause, we may have to deal with cerebral hæmorrhage, fatty degeneration of the capillaries, or chronic meningitis. In regard to his own classification it may be stated that, as respects idiopathic cases of Insanity, he recognises four different states, namely, Congestive Insanity marked by congestion and its products; Anæmic Insanity marked by diminution of red corpuscles and other changes in the quality of the blood. The two remaining forms are due either to atheroma of the cerebral vessels, or to tumours and the various lesions accompanying them. Dementia, General Paralysis, Idiocy, constitute other classes. He finds it necessary also to include in his entire classification a class of secondary cases which are consecutive to epilepsy, hysteria, &c., and lesions of the organs of sense.

The late M. Falret, it may be observed, said that in the first instance he was a firm believer in pathology as a basis of classification, that subsequently discarding this he adopted a psychological system, and ended by adopting the symptomatological,

or what he called the clinical method of arrangement, as really the most practical.

From the division of the German Psychologists into two great rival camps consisting of the psychical and the somatic schools, corresponding classifications of Vesaniæ naturally followed. Of the representatives of the former, Heinroth, Ideler, and Hoffbauer (the legitimate descendants of Stahl), the first named proposed one which is founded upon a very similar mental analysis to that which is given at pp. 47-8, namely, the Intellectual Faculties, the Moral Disposition (gemüth), and the Will, in which he includes the Propensities. It is remarkable that he who has taken most untenable ground in carrying the doctrines of the psychical school to their extreme limits in regard to the nature and seat of Insanity, and whose leading dogma* is falsified by every day's experience, should have adopted a classification which, if we have regard to mental analysis at all, possesses decided merit, and presents in Prichard's opinion "the most complete system that can be formed."

Linnæus, as we have seen, regarded the vesaniæ from a mainly psychological point of view. Dr Prichard's classification was thoroughly psychological in principle; grouping mental diseases under two great classes; the first comprising Moral Insanity or Pathomania; the second Intellectual Insanity, which comprised Monomania, Mania, Incoherence, or Dementia. Dr Bucknill observes that Insanity may be either Intellectual, Emotional or Volitional; and adds that "though in the concrete it is not easy to find pure and unmixed cases under either of these heads, such cases do occasionally subject themselves to observation, and the experienced psychopathist will find little difficulty in apportioning a vast number of the other cases according to their prominent character, under one or other of these headings."

* "Insanity is the loss of moral liberty. *It never depends upon a physical cause;* it is not a disease of the body but of the mind—a sin. It is not and cannot be hereditary, because the thinking *ego*, the soul, is not hereditary. . . . The man who has during his whole life before his eyes and in his heart the image of God, has no reason to fear that he will ever lose his reason. . . . Man possesses a certain moral power which cannot be conquered by any physical power, and which only falls under the weight of his own faults." It would seem impossible to compress within a single paragraph a larger amount of false and mischievous psychological teaching. It should only be retailed after being duly labelled "Poison." It is only fair to Heinroth, however, to say that his supporters insist upon his having been misunderstood. MM. Lesegue and Aug. Morel characterise him as "penseur profound; chercheur érudit;" and speak of his system as one "au sujet duquel tant d'idées fausses ont eu cours."

('Unsoundness of Mind in relation to Criminal Acts.') More recently he has proposed a scheme which combines the psychical phenomena with pathogenetic relations and pathological conditions, the first forming the Classes, the second the Orders and Genera, and the third the Species. It will be found in the Appendix.

Griesinger, commencing upon a psychological basis, admitted the two great groups of Emotional and Intellectual Disorders, associating with the latter, the Will. These he divided into states of (1) Mental Depression or Melancholia, states of (2) Mental Exaltation, and states of (3) Mental Weakness. Under Class 1 were comprised Hypochondriasis, Melancholia in a more limited sense, Melancholia with stupor, Melancholia with destructive tendencies, Melancholia with persistent excitement of the Will; under Class 2, Mania and Monomania; lastly, Class 3 embraced Chronic Mania, Dementia, Idiocy, and Cretinism. To these he added Disorders of Sensation and of Motion.

Dr Maudsley's mode of classifying mental diseases agrees with Prichard's and Griesinger's in distinguishing two great divisions, the Intellectual or Ideational, and the Emotional or Affective. Under the former he ranges Mania, Melancholia (general and partial), Monomania, Dementia, General Paralysis, Idiocy, and Imbecility.

Under the latter he includes Maniacal Perversion of the affective life or Mania sine delirio, Melancholic Depression without delusion (Simple Melancholia), and, lastly, Moral Alienation proper, approaching which, is the Insane Temperament. In his book on 'Body and Mind,' however, he employs and seems to adopt the classification of Dr Skae.

Diametrically opposed to the psychological was the somatic school of German Psychology represented by Max. Jacobi, Nasse, and Friedreich.* They directed the attention of medical psychologists in the strongest manner to the bodily causes of Insanity. Jacobi insists upon the ordinary forms of Mental Alienation being nothing more than signs indicating the existence of lesion of some organ of the body. Hence, in his view the condition of the *os sacrum* was almost as important as that of the *os frontis*. In his 'Observations on the Pathology and Treatment of Diseases connected with Insanity,' published in 1830, he enunciates the true somato-ætiological theory that

* 'Historisch-kritische Darstellung der Theorieen über den Wahnsinn,' 1836; and 'Handbuch der Allgemeinen Pathologie der Psychischen Krankheiten,' 1839.

"there is no disease of the mind existing as such, but that Insanity exists solely as the consequence of disease, either functional or organic, in some part of the bodily system."

This position was first enunciated by him in the second volume of his 'Sammlungen' entitled "Psychical Phenomena and their relation to the System in a Healthy and Diseased State."* Jacobi does not, however, discard the ordinary nomenclature, which, when clearly understood to be only symptomatological, is useful, and in fact necessary, and, while never losing sight of the somatic cause of psychical manifestations, as the real morbid condition with which the alienist has to deal, he presents three great groups of symptoms :—Those of Insanity without delusion, the disturbance of the intellectual powers being slight; those of Insanity with delirium or incoherence without delusion; and thirdly, those of Insanity with delusion.

Flemming, a disciple of the same school, felt strongly† the practical disadvantages of having only a psychological classification, and constructed a nosological table in which the somatic element is recognised. For example, he divides Imbecility into classes, according as it is congenital or is caused by injury to the brain, or by inflammation of the brain, or by nervous fever, or by epilepsy. Here is at least the germ of a somato-ætiological or pathogenetic classification, a shadow, along with Jacobi's "somatisch-psychische" doctrines, of coming events.

It may here be observed that Arnold, in the early part of the century, asked himself the question, whether the classification of Insanity could not be arranged according to causes, and he arrived at the conclusion that the knowledge of his day would not admit of it; but that it was a thing to be desired, and at some future day, feasible. "Of causes," he says, "we know too little to make them a foundation of the arrangement of diseases, and particularly of proximate causes, which alone can make us perfectly acquainted with their internal nature.

* See also 'Zeitschrift für die Beurtheilung u. Heilung der Krankhaften Seelenzustände,' 1838, p. 43.

† See 'Allgemeine Zeitschrift für Psychiatrie,' 1844, p. 104. Still more strongly wrote Petit a year before. In view of the endless subdivisions of some nosologists in his day, founded upon every passing symptom, well might he, in his 'Mémoire sur le Traitement de l'Aliénation Mentale,' exclaim against such learned trifling, and characterise them as "bagage" and "fatras scientifique," and sweep them all away by asserting that "quelle que soit la nature du délire, il y a toujours un point quelconque plus ou moins étendue du cerveau, qui est à l'état maladif, et cet état est le même, au dégré près, quel que soit le point affecté."

When the science of causes shall be complete, *we may then make them the basis of our classification;* but till then we ought to content ourselves with an arrangement according to symptoms. And as there is always a fixed arrangement between causes and effects, an exact arrangement according to symptoms which we see, may tend to throw light upon their causes which we do not see; and the analogy of the symptoms, pointing out an analogy between the causes, may lead to similar and successful methods of cure in similar cases, how imperfect soever may be our knowledge of the real and immediate causes themselves" ('Obs. on the Nature of Insanity,' preface to 2nd edition, 1806).

In one of his Annual Reports of the Maclean Asylum, Massachusetts, Dr Luther Bell, more than thirty years ago, objected to the usual classification according to prominent symptoms as "unsound as respects the palpable characteristics or manifestations of Insanity: it also will not bear the test of accuracy as regards the *cause of the disease or the pathological condition of the sufferer,* since there is every reason to believe that the peculiar affection of the cerebro-spinal system, or merely the reflex action of more distant irritations upon that system is a unit, and these forms are merely the changing external symptoms, often having scarcely a diurnal continuance before passing from one to another. It is a division useless as regards moral or medical treatment, for neither the moral nor the medical regimen would be determined by the name or class to which a case approaches the nearest, *irrespective of the indications presented in each individual constitution.*" While, however, rejecting the old nosology, Dr Bell did not substitute for it an ætiological but a psychological classification, viz. a form of Insanity affecting the Intellect; a second, touching the Moral Sense mainly or exclusively—Insanity of conduct, but not of conversation; and a third, consisting in deranged or perverted Sensibilities, the intellect and moral sense being alike undisturbed. Such distinctions as these he considered would be of essential value in the medical jurisprudence of Insanity and the training of the intellectual and moral faculties.

Belhomme, in 1834, in his 'Considérations sur l'appréciation de la Folie, sa localisation,' &c., proposed the twofold division of Idiopathic and Sympathetic Insanity; and Schr. v. d. Kolk, in an article published in 1852,* adopted from a like somato-

* 'Tydschrift der Ned. Maatschappy tot bevordering der Genuskunde.'

ætiological or pathogenetic standpoint, the same classification of mental diseases, with important additions. "We are accustomed," he says, "to compare the different kinds of mental disorder according to the differences of the phenomena which they call forth, and to note them down as Mania, Monomania, Melancholia, Dementia, and Idiocy. This classification certainly serves to distinguish the different forms and diseases to be retained; however, it has not always appeared to me to be quite practical, because it proceeds more from the morbid symptoms than from the nature and origin of the disease. For some years I have, therefore, reduced the different forms of the disease to two principal groups, which may be designated as Idiopathic and Sympathetic Insanity, which are distinguished from one another by special characteristics, and which meet all our wants in treatment." Under Idiopathic Insanity* he included all cases originating *in a primary affection of the brain*, whether from hereditary predisposition, injury to the head, or mental influences; while under Sympathetic Insanity he comprised cases arising from disorders of the *other organs* of the body, especially the abdominal and generative. The great practical utility of this classification consists, he says, in the fact that recovery cannot take place unless the remote cause is removed. Under the primary class of mental disorders he treats of acute and chronic Idiopathic Mania, Hallucinations, Dementia, and Idiocy, while under the secondary, he describes Sympathetic Mania or Melancholia proceeding from the colon, Melancholia proceeding from the sexual apparatus, Mania from the kidneys and bladder, Mania from disorders of the heart and lungs, and so forth.

The somatic causes of Insanity were much more elaborately studied and brought forward by Dr Morel as a basis of classification, in his 'Traité des Maladies Mentales,' 1860. Pathology, in the broad sense of the word, was not disregarded. The pathogenetic relations of the varieties of Insanity were recognised. We subjoin an abstract of his classification.

Group I.—*Hereditary Insanity.*

1*st Class.* Those who are of congenitally nervous temperament. 2*nd.* Those whose Insanity is indicated by insane acts rather than insane conversation. Includes Prichard's Moral

* The reader must not confound this with the sense in which Skae uses the same word. "Protopathic Insanity" may with advantage be used for Schr. v. d. Kolk's "Idiopathic Insanity," to avoid the confusion which has been caused.

Insanity. 3*rd.* Constitutes the transition state between class 2, and Idiots and Imbeciles. The members of this class are marked by morbid impulses to incendiary acts, theft, &c. 4*th.* Idiots and Imbeciles.

Group II.—*Toxic Insanity.*

1*st Class.* Caused by intoxicating substances, as alcohol, opium, &c. Also poisonous ingredients, as lead, mercury, &c. 2*nd.* Caused by insufficient or diseased food, as ergot of rye. 3*rd.* Caused by marsh miasma, or the geological constitution of the soil (*e. g.* Cretinism).

Group III.—*Insanity produced by the transformation of other diseases.*

1*st Class.* Hysterical Insanity. 2*nd.* Epileptic ditto. 3*rd.* Hypochondriacal ditto, consisting of three varieties.

Group IV.—*Idiopathic Insanity.*

1*st Class.* Progressive weakening or abolition of the intellectual faculties, resulting from chronic disease of the brain or its membranes. 2*nd.* General Paralysis.

Group V.—*Sympathetic Insanity.*

Group VI.—*Dementia, "a terminative state."*

Since we gave the foregoing classification of Morel, Dr Skae has proposed a more elaborate one, founded mainly upon causes.* His *first* group or natural order is common to all classifications—Moral and Intellectual Idiocy and Imbecility; the *second* is Epileptic Insanity; the *third,* Insanity of Masturbation; the *fourth,* of Pubescence. Then follow:—

Hysterical Mania.	Senile Mania.
Amenorrhœal Mania.	Phthisical ,,
Post-connubial ,,	Metastatic ,,
Puerperal ,,	Traumatic Mania.
Mania of Pregnancy.	Syphilitic ,,
,, Lactation.	Delirium Tremens.
Climacteric Mania.	Dipsomania.
Ovario-Mania (Utero-Mania).	Mania of Alcoholism.

* "The basis of my classification is essentially, although not entirely, an ætiological one." 'Morisonian Lectures on Insanity,' 'Journal of Mental Science,' October, 1873. At an earlier period (1871), when speaking on a paper read at a psychological meeting, he is reported to have said, "It is based upon an attempt to group the various forms of Insanity into natural families." Op. cit., January, 1872.

Post-febrile Mania.
Mania of Oxaluria and Phosphaturia.
General Paralysis with Insanity.
Epidemic Mania.
Idiopathic Insanity { Sthenic. Asthenic.

Now, each of these groups, according to Skae, presents psychological lineaments or symptoms which are peculiar to, and characteristic of it. Here are nearly thirty natural orders or families, each of which, it is held, has its natural history, its special cause and morbid condition, its average duration, and probable termination. Each is a *separate disease*, the symptoms of which when they vary, do so only within certain limits. The true test of this position must obviously be one of experience. It clearly admits of verification—analytically as well as synthetically. Is it or is it not a fact that those who adopt Dr Skae's classification can, without being told the history of the patient, distinguish by the mental symptoms alone a case of Traumatic Mania from one of Phthisical Mania? A case of Syphilitic from a case of Metastatic Mania? It is no doubt true that the patient who is insane from epilepsy presents for the most part tolerably distinct characteristics, though even some of these which would induce us to describe the case as one of Epileptic Insanity, without knowing anything of the past history of the patient, are really physical, in fact, physiognomonical, and not "psychological lineaments." Still, in this instance, there are doubtless some striking psychological features; but that a case of Traumatic Insanity presents "its own special psychological character," the writer is disposed to question. His own experience would induce him to think that very different mental symptoms frequently result from wounds or blows on the head; and as regards another form, Puerperal Insanity, we constantly witness the most opposite mental states arise in conection with it—in one case Melancholia, in another Mania. Then, again, we have seen a student puzzled to know why the terms sthenic and asthenic should be restricted to Idiopathic Insanity, as it seemed to him to imply that Phthisical Insanity, for instance, cannot be asthenic. When, indeed, in accordance with this system of classification, a case is spoken of as simply one of "asthenic Insanity," it may well be doubted whether the term conveys so definite an idea as those which are in ordinary use. For instance, if employed to describe the mental condition

of a patient in filling up the Form of Admission required by the Lunacy Board, it would be impossible from this alone to form any opinion as to the psychical condition of the patient. So also for the purposes of classification in an asylum, those terms which denote the present state of the patient's mind would seem to be more practically useful than those which indicate the somatic cause of the mental derangement. It is surely of the first importance for this purpose to distinguish between acute Mania and Suicidal Melancholia. Obviously there are occasions when it would be more important to be informed that a patient is homicidal, than that his case is one of Sthenic Insanity or Traumatic Mania.

On the other hand, it is manifest that for treatment, this aspect of the disorder is most important, and that the forcible way in which a somato-ætiological system of studying and classifying mental affections directs the student or physician to the bodily origin of the disorder, with a view to the removal of the cause or morbid condition upon which it depends, is a powerful argument in its favour. It should not be forgotten, however, that it does not necessarily indicate the *existing* bodily affection; the mental or cerebral condition being in many cases simply a *remanet* due to disorder of another organ which has passed away. Again, it might be objected that it throws into the shade, or even ignores, psychical causes of insanity, and that it would be quite possible to trace the causes of the attacks of the patients in any large asylum, and construct from those of a "moral" nature a psycho-ætiological as well as a somato-ætiological nosology. In fact, "Post-connubial Mania" probably as frequently owns an emotional as a physical cause. We might speak of a "Post-fright" and a "Post-grief" Mania, or of "Post-study" Insanity, and so on through the several emotions and the intellectual faculties. This objection, however, has been met by Dr Skae's division of Idiopathic Insanity. The weakness of this classification, it has been frequently said, lies in its having any such division at all, *in the sense in which he uses "Idiopathic."* If, indeed, it can enable us to distinguish the natural history of those cases of Insanity which arise from a directly mental cause, the objection ceases to have practical force; but it is to be feared that such will never be the case.

Such and other criticisms naturally present themselves, although they are not valid reasons for neglecting this path of

inquiry, and so failing to connect, whenever it is possible, the mental disturbance with the *fons et origo mali*, of which it is but a symptom.

As in skin diseases, so in affections of the brain involving Insanity, it is highly desirable to regard and to describe them in relation both to the characteristics they present and the causes which have induced them. In each, for instance, it is obviously of great moment to recognise a case originating in syphilis, and in each it is needful to convey a clear idea of the symptoms by the use of generally understood terms. No better proof of the practical utility of the old system of typical forms can be given than their retention on the part of Dr Skae himself, in addition to his own classification. Besides which, common to both, are symptomatological terms; for what are Imbecility and Idiocy but expressions or signs of mental deficiency or disease, without telling us anything as to causes or pathology? Nay, what is General Paralysis itself, in respect to nomenclature, but a symptom, and so of Epilepsy, which may arise from as many different pathological conditions as Mania or Melancholia?

We would further observe, in regard to the proposed classification, that we must distinguish between its somato-ætiological truth, and the uniformity of the symptoms alleged to result from similar bodily causes. It may unfortunately be found that Skae was too sanguine in regard to the uniform mental groups arising from a common causation, and yet it may be true that he has helped us to distinguish separate pathological entities, the study of which will advance our knowledge of the origin, nature, and course of the mental disorders which they occasion—only, as we have said before, let us approach the subject from all sides, and not adopt any one classification exclusively.

The classifications of Morel and Skae, along with that of Schr. v. d. Kolk, have been modified and amplified by Dr Batty Tuke, who groups them under seven great classes,—Arrested or impaired development of the brain, Idiophrenic, Sympathetic, Anæmic, Diathetic, Toxic, and Metastatic Insanity—nearly all the various forms contained in Skae's system, with the addition of, in the 2nd class, Phrenitic Insanity (inflammatory), and Paralysis with Insanity; in the 3rd class, Enteric Insanity; in the 4th class, Limopsoitos (from starvation); in the 6th class, Cretinism, and Insanity from opium-eating; and lastly, in the 7th class, Rheumatic and Pellagrous Insanity. On the other

hand, he rejects Dipsomania, and Mania of oxaluria and phosphaturia, and places Epidemic Mania under Hysterical Insanity. It should be stated that the author of this system distinctly calls it "A Pathological Classification of Mental Disease," and he regrets Dr Skae's not having adopted Pathology as the basis of classification.* It must, however, be pointed out that by a pathological classification it is not intended to convey the idea that the morbid anatomy of the brain, either as seen by the naked eye or as revealed by the microscope, forms the basis of this arrangement, but that by pathological is meant the morbid influence which in each case induces the symptoms. This is a very different use of the term from that in which it is employed by Parchappe and others. As to cerebral pathology, the author distinctly says, not only that it is now impossible "to found a nosology on the abnormalities of the brain-tissue," but that "we can never hope to indicate the seat of any special form of Insanity as situated in any particular portion of the encephalon." Doubtless this classification admits of improvement, and the method pursued must not be exclusively followed, but we do not agree with the 'American Journal of Insanity,' that "It is no more satisfactory than those hitherto made."

Dr Clouston adopts in the main, and states he finds practically useful, the classification of Skae. The reader is referred to his "Morisonian Lectures," on these varieties of Insanity, in the 'Journal of Mental Science,' 1873-5, and to the same Journal for January, 1876.

The following method of classification was proposed by the International Congress of Alienists, at their Meeting in Paris in 1867 :†

1st. Simple Insanity comprehends the different varieties of Mania, Melancholia, and Monomania, Circular Insanity, and Mixed Insanity, Delusion of Persecution, Moral Insanity, and the Dementia following these different forms of insanity.

2nd. Epileptic Insanity means Insanity with epilepsy, whether the convulsive affection has preceded the Insanity and has seemed to have been the cause, or which it has appeared, during the course of the mental disease, only as a symptoms or complication.

* See 'Journal of Mental Science,' July, 1870, and his "Morisonian Lectures on Insanity."

† The reader will find the entire Report in the 'Journal of Mental Science' for 1870.

3rd. Paralytic Insanity or Dementia, should be considered as a distinct morbid entity, and not at all as a complication, a termination of certain forms of Insanity. There should be comprehended, then, under the name of paralytic insane, all the insane who show, in any degree whatever, the characteristic symptoms of this disease.

4th. Senile Dementia is the slow and progressive enfeeblement of the intellectual and moral faculties consequent upon old age.

5th. Organic Dementia embraces all the varieties of Dementia other than the preceding, and which are caused by organic lesions of the brain, nearly always local, and presenting, as almost constant symptoms, hemiplegic occurrences more or less prolonged.

6th. Idiocy is characterised by the absence or arrest of the development of the intellectual and moral faculties, Imbecility and Weakness of Mind constituting two degree or varieties.

7th. Cretinism is characterised by a lesion of the intellectual faculties, more or less analogous to that observed in Idiocy, but with which is uniformly associated a characteristic vicious conformation of the body, an arrest of the development of the entirety of the organism.

Under the titles "ill-defined forms," "other forms," are to be set down all the varieties of mental alienation which it shall seem impossible to associate with any of the preceding typical forms.

The general adoption of this classification, as also that proposed by Dr Skae, was recommended for adoption by a Committee of the Medico-Psychological Association in 1869.

The writer thinks there is something to be said in favour of the attempt to classify the various forms of Insanity according to the mental functions affected, as well as according to the other methods. Griesinger, and others who would be the last to regard the question with metaphysical eyes, recognise this. To decide what is mental disease we must first decide what mental health is; and to do this it is inevitable that we should compare, not healthy and diseased mind as a whole, but in relation to the particular faculties and emotions which are disordered. In fact, to follow out this line of inquiry systematically, to parallel the normal activity of the various instincts and mental powers with abnormal action of the same, is one of the

most important, as it is one of the most interesting pursuits opened out to the medical psychologist; and is in some danger of being lost sight of in the present tendency to decry the psychological method of classification on account of the mistakes which have been committed in the name of metaphysics.

Could we determine, with certainty, distinctly separated faculties of the mind, we might then, and only then, hope to possess a detailed and symptomatic nomenclature, according as one or more of them are involved. Did we possess a perfect knowledge of the physiology of the organ of the mind, we should naturally, as in other diseases, endeavour to adapt our terms to the *structure* affected—assuming that there are different parts of this organ correlated with different psychical powers; but, in the absence of this knowledge, it would seem reasonable to adapt them to the affected *function;* indeed, we do this to some extent in strictly physical diseases, for we speak of disorders of digestion, &c., as well as of the organs by which such processes are carried on. In the same way, we might speak of disorders of the intellect, sentiments, &c., instead of basing our classification exclusively on prominent symptoms, as is the case when Mania, Dementia, and similar terms, are alone employed. Accustomed as psychologists are to these expressions, it would be idle, if it were desirable, to attempt to discard them; and they are convenient in conveying, in most cases, a tolerably correct idea of the condition of the patient, and the two systems may be combined. In our present imperfect knowledge of the mind in health and disease, we can scarcely hope to attain more by either psychological or symptomatological classifications than that which, indeed, is absolutely essential in a systematic treatise, a certain orderly arrangement of the varieties of Mental Alienation; in regard to which order we may say, as Dr. Lindley observes of a science admitting of far more exact observation: —"Our genera, orders, and the like, are mere contrivances to facilitate the arrangement," &c.

Were we to attempt, in this volume, to arrange the forms of Insanity on a purely metaphysical basis, we should treat of them under three heads, either Intellectual, Emotional, and Volitional, or adopt the division of the Intellect, the Moral Sentiments, and the Propensities or Instincts.

We might thus construct a threefold classification of the mental faculties, coupled with the usually recognised Forms of mental defect and disease, which would relegate Idiocy and

Imbecility to the incomplete development of the *Intellect;* Dementia, Delusional Insanity, and ordinary Mania to its disorder after development; congenital or infantile moral weakness, or so-called Moral Imbecility, to incomplete development of the higher *Emotions* or *Moral Sentiments;* Moral Insanity, simple Melancholia, or Exaltation to their disease after development; Mania, with homicidal or other distinct morbid impulses to disorder of the *Instincts* or *Propensities,* or a loss of Volitional power; uncontrollable propensities and a paralysed Will leading to the same result.

In bringing the phenomena of diseased mind into relation with such classification, we should endeavour to refer every form of disease to that class or group of the mental faculties which the disease necessarily, though not exclusively, involves in its course. Thus, Delusional Insanity necessarily involves the intellectual faculties. The same is true of Dementia, Idiocy and Imbecility. The animal propensities are, however, so far from sympathising with the condition of the intellect, that they may be in a state of vigorous action.

In presenting these metaphysical divisions, however, as one mode of approaching the subject, we are well aware that even these, simple as they are, assume a degree of distinctiveness for mental derangement, which is not in accordance with common, but only exceptional, experience. Idiocy, for instance, is not a defect of the intellectual faculties alone. Mania is no isolated affection, but usually involves all the mental faculties. What from this point of view we wish to insist upon, is the double truth that it is, in a large number of instances, practically useless to employ a metaphysical system of classification, but that there are cases which demand and forcibly illustrate such a system. Usually the intellect, the emotions, and volition are all in disorder; on the other hand, the insane sometimes present remarkable examples, when tested in regard to different psychical faculties, of healthy and diseased mental manifestations in combination.

In the present, as in former editions of this work, we shall group mental defects and disorders under five great divisions which are primarily symptomatological, although, to a certain extent, they fall also under the psychological heads already indicated:

I. The *first,* comprising Idiocy, Imbecility, and Cretinism—states of undeveloped intellectual power.

II. The *second*, Dementia, a state in which intellectual power, once present, has been weakened or destroyed.

III. The *third*, Delusional Insanity, or those states in which marked delusion is present, whether assuming a melancholy or depressed character (*Melancholia* with delusion), an exalted character (*Monomania* with delusion; the Intellectual Monomania of Esquirol), or a destructive character (*Homicidal* and *Suicidal Insanity*, &c., with delusion).

IV. The *fourth*, Emotional Insanity, or morbid states of the Emotions without Delusion, whether of a melancholy character (*Melancholia* Simplex), of an exalted character (Partial Exaltation; the Affective Monomania of Esquirol), or whether marked by a perverted moral sense or by impulses chiefly of a destructive character (*Homicidal Insanity*, &c., without delusion or mental weakness, Instinctive Monomania of Esquirol) constituting Moral or Emotional Insanity *proper*.*

V. The *fifth*, Mania, a state of general mental excitement or exaltation.

All these forms or varieties of Insanity are liable to complication with Epilepsy, or, if acquired, with General Paralysis.

We do not know that this classification can be materially improved, having regard on the one hand to the desirability of retaining as far as possible the terms already in use, and on the other to the practical convenience of distinguishing between delusional and emotional morbid mental states, and, as distinct from these, states of actual fatuity, whether congenital or acquired.

As regards General Paralysis, and Insanity complicated with Epilepsy, the mental symptoms present in these disorders will fall, from a symptomatological standpoint, under one or other of the foregoing divisions. It would obviously be altogether out of character with the above classification of Mental symptoms or states, to enumerate in the same category, forms of Insanity the descriptive terms of which do not indicate more than a physical symptom or state. If separately distinguished, they must find their place in a classification constructed upon physical principles, that is, upon morbid bodily states. Not that a psycho-symptomatological nosology *excludes* these important disorders, but simply that here they are associated with,

* In fact, the term Moral Insanity is now universally restricted to that morbid condition which results in immoral acts without apparent intellectual disorder.

and form illustrations of, any one of the psychological groups of Insanity. In a somato-ætiological, which should be regarded as the obverse of a symptomatological classification, they of course come first in order; and the various mental symptoms or states which arise in their course occupy a secondary place.

In describing the typical forms of mental disease as presented to us through a study of symptoms, we shall not reject the universally employed terms, Idiocy, Imbecility, Dementia, Monomania, Melancholia, Mania.

We heartily wish "Monomania" had never been introduced into Psychological Nosologies, for if understood in a literal sense its very existence is disputed, and if not, the various morbid mental conditions it is made to include by different writers, leads to hopeless confusion. With one author it means only a fixed morbid idea; with another only partial exaltation; while a third restricts it to a single morbid impulse. As we proceed we shall consider its signification, but we shall not frequently employ the term.

Examples of so-called Monomania may occur under either Delusional or Emotional Insanity. The same with Melancholia. When Emotional Insanity takes an exalted form it may be characterised by Religious Exaltation, Monomania of Vanity, &c. It then assumes the form of Partial Exaltation, ever tending to pass on into Delusional Insanity. When exaltation or excitement is general, the term Mania is employed. When Emotional Insanity is of a destructive character, the disease assumes a variety of forms, Homicidal Mania, &c. Dipsomania and Erotomania cannot be referred to the destructive class, but rather belong, especially the latter, to an exalted state. They are examples of natural instincts rendered uncontrollable by disease, and in any psychological classification will either be referred to disordered Volition or Emotion, according as the classifier chooses to regard the excessive manifestation as the result of paralysis of the Will, or any overpowering emotional impulse. Emotional Insanity, like the Moral Insanity of Prichard, is frequently employed in a comprehensive and a limited sense. Either may be made to include all the forms of Emotional Insanity in which no disorder of the Intellect is apparent, *e. g.* Melancholia without delusion; or Exaltation (religious or otherwise) without incoherence. On the other hand, either may be restricted to those forms in which the *moral nature* is perverted by disease, without, as yet, intellectual disturbance;

and without being necessarily associated with sudden irresistible impulses. In fact, in these cases the will does not struggle against an impulse foreign as it were to the *ego*, and find itself overthrown and subverted, but the *ego* itself is perverted through an abnormal condition of the cerebral organization, constitutional or acquired; we might, therefore, conveniently speak of Emotional Insanity *proper* when we wish to convey the restricted signification of the term. Moral Insanity *proper* would correspond to the same condition. Indeed, it is in this limited sense that, contrary to the original intention of Prichard, the term is popularly, and, indeed, among medical men, almost exclusively employed. Nearly all the forms of Insanity are so mixed, and blend so intimately the one with the other, that when describing them we shall shackle ourselves as little as possible with arbitrary divisions—nosological limitations which are better fitted for the study than medical practice.

It has been said of this classification that most of the morbid mental states thus specified do not represent typical forms, and this is very true if by the term "Forms" we understand distinct mental diseases originating in different bodily causes, pursuing a definite course, and having a distinctive morbid anatomy. But if they be regarded as conveying a correct idea of certain morbid mental states, separated from one another by their most prominent characters, they will serve a useful purpose to the student, and we cannot dispense with them. As Griesinger says,* all classifications must in the end return to the principal forms of Insanity, Mania, whether acute or chronic, Melancholia, and Dementia, "because they are really founded on Nature." (Auf welche als wirklich in der Natur begründet am Ende doch alle Eintheilungen weider zurückkommen müssen.)

Such a classification as the foregoing meets the requirements of "Natural Groups" as laid down by Mill, so far as it selects for division, characters which possess "the greatest number and the most important of their properties in common,—the names conveying "by their mode of construction as much information as possible," and having "the greatest amount of independent significance which the case admits of." It is not necessary to discuss the relative merits of Mill's and Whewell's theories of Natural Groups, the former being based on Definition and the latter on Type, because Mill admits that "Natural Grouping

* 'Die Pathologie u. Therapie,' &c., p. 121.

may be said to be *suggested* by Type (*i. e.* by mere general resemblance), but determined by Definition (*i. e.* by possessing specific characters or properties)," which is sufficient for our present purpose. Influenced as any classification must be by our steadily advancing knowledge of the causes and pathology of Insanity, it is best we believe to adopt in a Manual, as our basis, an orderly arrangement of Morbid Psychological Phenomena, and to place side by side with these, a classification which recognises their ætiological and pathogenetic relations, and by so doing embraces such forms of mental disease as General Paralysis.

The writer does not believe it is yet possible to proceed very far, with a sure step, in this attempt to construct a somato-ætiological classification. At the same time he recognises the scientific importance of endeavouring to look at and group cases of insanity, not only by their mental symptoms, but by the physical state with which these symptoms are associated. Thus, as in the last edition, we suggest some divisions as helpful from this point of view, without maintaining that the varieties enumerated have been established as Forms of Insanity or distinct pathological entities, whose natural history can be distinguished with scientific precision, and still impressed with the force of the criticisms which we have ourselves offered to this system.

I. Insanity, or mental Deficiency, caused by primary disease or defective development of the encephalic centres (Protopathic Insanity).

Examples.—Idiocy. Insanity with ordinary Paralysis* ("Organic dementia"). General Paralysis. Epileptic Insanity (when of central origin). Senile Insanity. Under this division fall cases of Idio-functional Insanity, those, namely, which, arising from excessive action or otherwise of the functions of the brain (see p. 317 last edit.), do not assume these and like forms.

II. Insanity caused by disorder of, or developmental changes occurring in other organs than the encephalic centres (Deuteropathic Insanity).

Examples.—Pubescent Insanity. Uterine Insanity. Climacteric Insanity. Puerperal Insanity. Also Rheumatic, Syphilitic Insanity, &c. These vesaniæ may be subdivided into

* "Paralytic Insanity" applied to this condition is so apt to be confounded with General Paralysis as to be undesirable.

those which do and those which do not originate in the reproductive system.

III. Insanity caused by alcohol and other poisons (Toxic Insanity).

Examples.—Alcoholic Insanity, Pellagrous Insanity.

Inasmuch as a poison like alcohol directly injures the brain tissue, it seems an arbitrary although a recognised distinction to separate Toxic Insanity from the first group. If allowed to form a subdivision thereof, we should then have only two great groups—Protopathic and Deuteropathic Insanity. The difficulty of drawing a clear line of demarcation between Toxic Insanity and Protopathic Insanity is illustrated by General Paralysis, which sometimes is and sometimes is not caused by excess of alcohol.

Again, the attempt to approach Insanity from its purely physical side, and to construct a classification based on somatic causes alone, encounters a difficulty in Idio-functional Insanity which the corresponding class of Skae—Idiopathic Insanity—equally encounters, namely, that mental shock, overstudy, &c., are here the causes of the attack. From a broad pathogenetic point of view, however, this objection does not possess sufficient force to destroy the practical utility of such a class, should we desire to make the attempt to study the various morbid phenomena presented to us in Insanity, from the standpoint now under consideration. As the functions of the brain cannot be overstrained without cerebral strain also, the pathology (in its wider sense) of this group of cases is to a certain extent indicated by the nomenclature. We are not concerned, however, to defend any one system of classification, convinced that none is free from objection and more or less obvious inconsistency. Lastly, it should be noted that a very large number of cases of Insanity are, from an ætiological point of view, essentially constitutional, a very trivial exciting cause serving in many instances to induce an attack. Practically, it is of importance to recognise this, and when a neurotic constitution is the only apparent cause of mental disorder, it would form an example of Constitutional Insanity, falling under the division of Protopathic Insanity. This is not necessarily the same as Hereditary Insanity, a term to be restricted to mental disorder with a family history of insanity. Inasmuch as in both constitutional and hereditary insanity the cause is a predisposing one, and as an ætiological or pathogenetic nosology deals mainly

with exciting or determining causes, these forms do not appear. Being in the background, they are eclipsed by the factor in the foreground ; and such predisposing causes precede so many cases of Insanity, that they would, if recognised in the terminology, swallow up the major part. Morel recognised this class notwithstanding. If it is adopted, however, it must be clearly understood that a great many of the cases in other classes, as Puerperal Insanity, are constitutional or hereditary.

SECTION III.—Ætiology.

The Causes of Insanity may be either *predisposing* or *exciting*. For example, a man may be in an exceedingly feeble condition of health, in which the death of a friend, or other domestic trial, may induce an attack of Insanity, from which he would not have suffered had he been in the enjoyment of sound health at the time of the event. In such a case the predisposing cause of the patient's Insanity was ill health, the exciting cause, domestic grief. Among the most important predisposing influences are —hereditary predisposition, a delicate mental organization, and an "unbalanced mind." Among the exciting are,—injury to the brain, intemperance, disappointed affections, &c. In different persons the same circumstance (intemperance, for instance) may have acted, in the one as a predisposing, in the other as an exciting cause. Predisposing causes may be either physical or moral, but they are, as a matter of fact, almost exclusively the former.

The causes of Insanity may come into operation at the period of conception. We should expect this *à priori*, and experience appears to prove it. We allude more especially to the case of a parent begetting children when drunk.

It is obvious that, on the one hand, the mental and physical condition of either parent at the moment of conception must exercise an important influence upon the future being, *quoad* his insanity; while, on the other hand, it is equally obvious that there are but few instances in which the connexion between the transient mental states of the parents and the character and diseases of offspring can be satisfactorily traced in the way of cause and effect.

At the moment of conception may also be transmitted, so far as the father's influence is concerned, any hereditary predisposition which may exist. That other diseases of the parent besides

Insanity may predispose the child to mental disease can scarcely be doubted; and among such diseases may be included, not those alone which belong to the nervous system, as epilepsy, but probably others, such as phthisis.

When the ovum is impregnated, it is subjected to the influence of the mother's diseases or predisposition to disease. It is also liable to receive unfavorable impressions from transient conditions of the mother from mental shocks of any kind. The embryo may have also idiopathic disease of the brain.

We may speak of a child's mental disease being cognate or innate, as distinguished from hereditary, when it is derived from influences operating during intra-uterine existence. There can be no question as to the origin of a considerable number of cases of Insanity, from causes referable to this division. Attempts to procure abortion should not be overlooked here.

Dr Down, in a paper on "The Obstetrical Aspects of Idiocy,"* observes, that in 20 per cent. of the cases of idiocy collected by him, there was a history of marked disturbance of physical health of the mother during pregnancy; in 4 per cent. a history of serious falls, followed by alarming uterine hæmorrhage; in 6 per cent. prolonged ill health; in 10 per cent. persistent sickness, which had occasioned anxiety. He regards vomiting during gestation as an important producer of idiocy, deserving the serious attention of obstetricians. Again, in as many as 32 per cent. of the cases, there was as regards the mother a history of fright, intense anxiety, or great emotional excitement.

Then follow the risks of birth, injurious compression of the cranial bones and brain, from a contracted passage or a protracted labour. Many crania are misshapen from this circumstance, without Idiocy or Insanity resulting; but a distorted or asymmetrical skull must be regarded as a predisposing cause.

Dr Crichton Browne has drawn attention to this cause in two interesting articles in vols. 1 and 2 of the 'West Riding Lunatic Asylum Reports.' He says Dugès traced Idiocy, and Dr W. J. Little weakness and eccentricity of mind and other disorders of the nervous system to injuries received in abnormal parturition. Independently of an exceptionally narrow pelvis from disease, and with or without the injury not unfrequently done by the forceps, Dr Browne insists upon the fact of the greater size of the head in civilised races *unaccompanied by a proportionate increase in the pelvic diameters,* as an influence operating

* 'Trans. of the Obstetrical Society of London,' vol. xviii, Dec. 6th, 1876.

to a very considerable extent in the production of Idiocy, Imbecility, and Insanity. It is notorious that labour among savage women is much more easily performed than among civilised ladies, and it is difficult to doubt the risk of cerebral injury which must attend the latter. To the forceps Dr Browne attributes the occasional origin not only of Idiocy, Imbecility, and Moral Insanity, but "a peculiar constitutional tendency to mental or nervous disease."

The following case will serve as an illustration :—

"M. R—, one of a large family of intelligent and healthy children, was born after a tedious labour with a huge caput succedaneum, testifying to the pressure to which he had been exposed. He was not expected to live, did not cry for some hours after birth, could not suck for several days, had twitchings of the limbs for a fortnight, and then spasm for about three months. Did not walk until he was three years old, and then with a tottering unsteady gait, and only acquired a few monosyllables a year afterwards. He grew up a typical example of that kind of Idiocy which generally results from tedious and abnormal but non-instrumental labours, and which is not altogether of the baser sort. Although exceedingly feeble in his mental powers, ineducable and unable to articulate distinctly, he could still pick up and play upon the piano any tune which he might hear, and manifested some vigour of memory in certain directions. He had a small conical head, badly shaped features, and a convergent strabismus, and was at times distressingly dirty and mischievous in his habits." (Op. cit., vol. i, p. 12.)

Dr Down, in the paper already cited, states as the result of his researches upon 2000 children, more or less idiotic, that 20 per cent. were born with well-marked symptoms of suspended animation, which required strenuous efforts to effect resuscitation. This suspended animation he regards as highly injurious to the integrity of the brain. No less than 24 per cent. were the children of primiparæ; the greater difficultyof parturition, and the exalted emotional life of the mother, being regarded as the main causes of the danger to mental power in the eldest child. Forty per cent. of resuscitated idiots belonged to primiparous offspring. As to the employment of instruments at birth, Dr Down traced this in only 3 per cent. of the cases in regard to which certain information could be obtained; and in most of these cases there were other causes present to account for the idiocy, leaving only a small fractional percentage in which the forceps was the principal cause. Labour was prolonged in a very large number of instances, and the conclusion is arrived at that more mischief is done by prolonged pressure than by artificial help.

The child who is free from predisposition to mental disease,

who has safely escaped the perils of conception, fœtal life, and birth, is still exposed to a variety of agents, some external, others internal. Among the former is the milk of a nurse strongly predisposed to Insanity; or (as with cretins) unwholesome water, food, &c. Among the latter is the first dentition, convulsions caused by which (however frequently they may seem not to be followed by any ill result) do exert no inconsiderable influence in arresting the development of previously healthy children.

If, safely escaped from the risks attendant upon the first and second dentition, the child grows up, he is exposed to others at the period of puberty. At this stage of development the danger is no doubt greatest in the female. After puberty both sexes, but especially the male, are exposed to unfavorable influences, which may be comprised under the terms intellectual and emotional excitement. Man's capacities for enjoyment and misery are alike increased; if wiser, he is also sadder. Then follow, with women, the dangers connected with pregnancy, parturition, lactation, and lastly, the critical period of life. These are the trial-epochs of life which test the mental strength and integrity of individuals. The influence of puberty and the climacteric period, and the prognosis to be given in Insanity resulting therefrom, will be referred to subsequently.

Old age, finally, plays an important part among the causes of Insanity.

From this rapid sketch of the circumstances capable of generating mental disease to which man is exposed from the moment of conception to the time of his death, we proceed to consider the causes of Insanity in detail.

Predisposing Causes.

Hereditary Predisposition is a term often made to comprise a taint traceable to relatives of very different degrees of consanguinity. It is sometimes used to signify one occurring in direct ancestors only. Evidence of Insanity in a direct line is clearly of far the greatest value. It may also mean the existence of Insanity in the uncles and aunts of any prior generation, a circumstance affording a strong presumption of hereditary predisposition. Again, it is an important evidence of family predisposition if the brother of the patient has been insane, for he

has precisely the same blood in his veins. At the same time it is clear that it would be a misnomer to speak of a patient's insanity being derived by hereditary transmission from a brother, or, indeed, from an uncle. It is, however, presumptive evidence of the existence of family predisposition when the brother or sister and the own uncle or aunt of the patient have been insane; indeed, this combination is almost as strong as when a lineal ancestor has been deranged. Lastly, it is obvious that the fact of hereditary predisposition cannot be with certainty inferred from the insanity of cousins, owing to the presence of fresh blood from which the taint may have been derived.

When we employ the term "direct" we mean lineal ancestors only; and by "collateral," that the existence of Insanity has been traced to an own uncle, or own aunt, or to a brother or sister; cousins not being included. It should be added, that the occurrence of Insanity in a parent after the birth of the person affected, cannot be regarded as certain proof of hereditary predisposition; at the same time such predisposition remains highly probable; its value must be judged of by the history and character of the attack under which the parent laboured; whether, in short, it appears to have been accidental rather than constitutional.

Esquirol observes that, of all diseases, Insanity is the most hereditary. "Although observed 337 times among 1375 lunatics, I am persuaded that this predisposing cause is still more frequent." This is nearly one fourth of the cases in which the cause was ascertained, and 21 per cent. of the admissions. He appears to use the term in an extended sense, but does not define it. However, we observe that recent French statistics show a proportion of 25 per cent. when only direct influence is included. Burrows says that six sevenths of his patients were the subjects of hereditary predisposition. Guislain estimates hereditary predisposition at one fourth of the admissions (56 out of 224 patients). He thinks it probable that it was actually 30 per cent. M. Michéa believes that at least one half, if not three fourths, of the insane have had, or still have, some members insane in their family. Dr Damerow traced in 773 patients admitted at Halle, hereditary predisposition in 187, or about one fourth.

The experience of the Retreat, during thirty-four years, was as follows:

	Male.	Female.	Total.
Hereditary on the paternal side	19	20	39
Do. maternal side	17	23	40
Do. on both paternal and maternal sides	3	3	6
Do. whether on paternal or maternal side not known ...	32	36	68
Known to be hereditary	71	82	153
Not known or stated to be hereditary	152	164	316
	223	246	469*

From this it appears that in 153, or nearly one third of the total number admitted, hereditary predisposition was traced. Dr Thurnam observes, that those cases have not been considered of an hereditary character, the history of which was only characterised by the existence of Insanity in collateral blood relatives; it being obvious that cases of this description do not necessarily establish any direct hereditary transmission. He adds that, had these been included, the proportion would have been raised to about one half or fifty-one per cent.

At the York Asylum in 334 cases out of 1029 admissions during twenty-seven years (1846-72) hereditary predisposition was traced, or 31 per cent. (Dr Needham's Tables in Report of 1873).

Dr Stewart in a valuable article in the 'Journal of Mental Science,' April, 1864, on "Hereditary Insanity," based on the study of 901 cases admitted into the Crichton Royal Institution, Dumfries, gives the following statistics under four classes:—1st class, Hereditary Insanity or eccentricity, *i.e.* when a first cousin or any nearer relation has suffered from such affection, 447 cases, or 49·61 per cent.; 2nd class, Hereditary Diseases not Insanity, or in whose parents there was found some disease or condition which had apparently produced the Insanity in their offspring, 49 cases or 5·43 per cent.; 3rd class, no Hereditary Disease, cases 245, or 27·19 per cent.; 4th class, Hereditary condition unknown, cases 160, or 17·75 per cent. In 181 of the cases only one relative of the patient was known to be insane, whilst in 226 cases more than one relation had been affected; results, as Dr Stewart points out, approaching very nearly those observed at the York Retreat. He gives the following table, showing the number of the hereditarily predisposed, whose parents, or collateral relatives, were affected, out of 901 admissions.

* Dr Thurnam's 'Statistics of Insanity.'

	Male.	Female.	Total.
Parents or ancestors insane	127	88	215
Brothers or sisters insane	79	64	143
Uncles or aunts insane	18	16	34
Cousins insane	10	8	18
Relatives, relationship unknown, insane	19	18	37
Total	253	194	447

At Bethlem Hospital, Dr Savage* has traced hereditary predisposition in 375 out of 1072 admissions from January, 1872, to November, 1876, being 34·9 per cent. The following table shows the insane relationship of the patients. Some of them appear under several heads.

	Males.	Females.
Having insane fathers	31	34
„ mothers	21	63
„ grandparents	17	30
„ brothers	25	41
„ sisters	28	55
„ uncles	22	31
„ aunts	26	41
„ cousins	14	20
„ other blood relations	1	3
„ several relations	46	77

In connection with this subject, there are three very interesting inquiries :—first, whether the Insanity of the mother is more frequently hereditary than that of the father; secondly, in cases of hereditary transmission, is the disease of the mother transmitted to a greater number of the offspring than that of the father? and, lastly, is Insanity most frequently transmitted from the mother to the daughters, and from the father to the sons?

To the determination of these questions M. Baillarger has directed his attention, and his statistics afford an affirmative reply in each instance. ('Annales Médico-Psychol.,' 1844, p. 833. See also an article in the 'Allgemeine Zeitschrift für Psychiatrie,' 1848, p. 540.)

The number of cases of Hereditary Insanity from which these conclusions are deduced amounted to 600, of which 440 were hereditary in the direct line by the father or mother, 13 had at the same time both collateral relations and brothers or sisters insane, 147 had only collateral relations insane. The fact of hereditary predisposition is assumed in the second as well as the

* 'Guy's Hosp. Reports,' 1877.

first class (making a total of 453); but cases of the third class are rejected as being uncertain. Baillarger appears to include cousins in the term "collateral."

We find from statistics given by the late Dr Brigham (America) that out of 79 insane men, 42 had insane fathers and 35 insane mothers, and in two instances, both parents were deranged; while of 96 insane women, 37 had insane fathers and 56 insane mothers, and 3 inherited a predisposition to Insanity from both parents.

The following tables from Thurnam, Brigham, and Stewart show the paternal and maternal influence on the number of males and females.

Thurnam.				Brigham.			
Paternal influence.		Maternal influence.		Paternal influence.		Maternal influence.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
19	20	17	23	42	37	35	56
8·5 p. c.	8·1 p. c.	7·6 p. c.	9·3 p. c.	7·07 p. c.	6·3 p. c.	5·9 p. c.	9·5 p. c.

Stewart.

Paternal influence.		Maternal influence.	
Male.	Female.	Male.	Female.
49	33	37	31
9·4 per cent.	8·7 per cent.	7·1 per cent.	8·1 per cent.

In the next table is exhibited the proportion of hereditary cases *in the different forms of Insanity* observed in the Crichton Institution, as reported by Dr Stewart.

Mania.	Melancholia.	Monomania.	Moral Insanity.	Idiocy and Imbecility.
51·0 per cent.	57·7 per cent.	49·0 per cent.	50·0 per cent.	36·0 per cent.

Dipsomania.	General Paralysis.	Dementia and Fatuity.
63·4 per cent.	47·6 per cent.	39·5 per cent.

It must not, however, be overlooked that a certain number of insane persons will necessarily have insane ancestors, without there being a necessary connection in the way of transmission

between the ancestor and the insane descendant. This source of fallacy does not appear to be of much practical moment.

Buckle, indeed, called in question the evidences upon which the hereditary transmission of disease rests, but it is not possible in view of the constantly increasing stock of facts accumulated on this subject to deny this influence in regard to Insanity, apart from mere coincidence.

Prosper Lucas, the highest authority in regard to hereditary influence, replies to the question whether this principle applies to disordered as well as healthy mental characteristics :—" Il n'y a point d'état pathologique de l'être où l'intervention de l'hérédité morbide soit, et plus remarquable, et plus remarquée. Elle est une source possible de toutes ses lésions." ('De L'Hérédité.')

He quotes from Michaëlis an instance in which all the male descendants of a noble family of Hamburg, remarkable from the time of the great grandfather for their great military talents, were attacked with Insanity at the age of forty; only one remained, an officer, who was actually forbidden to marry. The critical age arrived, when he too went insane. At Hartford, Connecticut, a maniac was admitted who was the eleventh insane member of his family. Moreau mentions the ninth member of a family having been so attacked, the others being his father, two brothers, two sisters, two cousins, and an aunt. We have ourselves known many instances of several members in a family being insane at the same time; as at the present moment we know a melancholy illustration of heredity in the case of an insane mother and two insane daughters.

We might have supposed that bodily features would be transmitted along with mental peculiarity; and Burrows says such is the case; but Moreau's conclusions are quite opposed to this idea. He asserts that while personal resemblance and cerebral disorder may be transmitted by either parent, they never are so by the same ('L'Union Médicale,' No. 48).

Thus, "when the children resembled the parent of the opposite sex the following results were obtained :—of 22 female suffering from Insanity, 17 had inherited it from the mother, and 5 from the father; while of 142 insane males, 95 had acquired the disease from the father, and 47 from the mother; when, on the contrary, the analogy of resemblance was inverted, 47 sons who resembled their father, derived their Insanity from the mother, and 8 girls who resembled the mother, derived theirs from the father." ('Med.-Chir. Rev.,' April, 1863.)

When mental disease is transmitted, does the form of Insanity descend? Very frequently this appears to be the case. Moreau confirms the opinion of Esquirol that such is even the general rule. He says it is rare that the form the malady assumes does not present the most striking resemblance, sometimes even a true identity. Lucas accumulates evidence in support of this opinion, as regards Hallucinations, Monomania, Dipsomania, Suicidal Insanity, Melancholia, Mania, and even occasionally in Idiocy.

Examples of hereditary *Suicidal Insanity* abound. Falret gives the case of a family in which the grandmother, mother, and grandchild were the subjects of Suicidal Melancholia; and another example, namely that of a family in which the father who was of a taciturn disposition had six children, five boys and a girl; the eldest, aged 40, precipitated himself from the third storey without any motive; the second in age strangled himself at 35; the third threw himself from a window in attempting to fly; the fourth shot himself with a pistol; and, lastly, a cousin jumped into a river from a trifling cause.

General Paralysis is stated to be highly hereditary, but we have not been able to meet with any facts which support the opinion that it has a tendency to reappear in the same form in the next generation. Insanity was hereditary in 8 out of 49 cases of general paralysis (or 16 per cent.) reported by Dr Burman in the 'West Riding Reports,' but no information is supplied as to the form it assumed in the forbears.

As regards *Idiocy*, Lucas cites the case of a child born of an idiot mother, who was idiotic and who from its infancy, left among the cows in the stable, acquired the habit of ruminating like them. Again, the eldest of three sisters, all imbecile, had two children, of whom one, a boy, was imbecile. Séguin says, "I have never had the charge, so far as I know, of an idiot, the son of an idiot, nor even of an imbecile; whilst I have frequently known or seen in the family of one of my pupils an aunt, an uncle, and oftener a grandfather, idiotic, insane, or imbecile."

It has been pointed out by Dr Leubuscher of Berlin, and others, that the *outbreak* of an hereditary disposition to Insanity is especially connected with the processes of development, as the occurrence of puberty, the climacteric period, and childbirth.

But while the same form or type of mental disorder may descend from one generation to another, it is also certain that not only may one form be succeeded by one of a very different

character but by other neuroses, as Epilepsy or Chorea. Burrows enumerates Hypochondriasis, Apoplexy, Paralysis, Epilepsy, Convulsions, Chorea and Hysteria, as hereditary "relations of Insanity." Portal pointed out the fact that in the same family one nervous affection is replaced by another, instancing Mania and Epilepsy. Greding also observed Mania in the mother become Epilepsy in the children. Gintrac perceived that great nervous sensibility in one generation was metamorphosed into Monomania, Hysteria, Epilepsy, Neuralgia, in the next. Lucas, who cites these authors, devotes a chapter to the subject of hereditary metamorphosis of diseases of the nervous system, and points out that the general law of the transmission of similar types is compatible with mutability of type—the transmission of allied but different forms of neuroses. In fact, Gaussail held that nothing is transmitted but the *aptitude* for some form or other of nervous disorder, and that this is wholly determined by causes subsequent to birth. Lucas shows that as in an individual any nervous affection may be transformed into another, and thus prove the consanguinity of these disorders, so may the like transformation take place in parents and children. Morel, Moreau, Maudsley, and Austie have latterly pursued the subject in still more detail. Dr Anstie in an able paper "On the Hereditary Connections between certain Nervous Diseases" in the 'Journal of Mental Science,' January, 1872, has pointed out two varieties of inherited neurosis, the Active Hereditary and the Dormant, while Lucas divides heredity into three divisions, according as it is manifested—(1) in mere predisposition or simple aptitude for a certain disease, (2) in the *latent* state or germ of the malady, or (3) in the *patent* state or actually developed disease.

We cannot conclude the consideration of hereditary predisposition without referring to the question so often asked, Is it right when there is, as people say, "Insanity in the family" for a member of that family to marry? The physician is certainly not called upon in all cases to advise against marriage, even if his advice were very likely to be followed. The result arrived at by Baillarger may assist in forming an opinion in the particular case under consideration; for instance, there would be less danger in a man marrying, whose mother, and not whose father, had been insane; but still more important would be the character of the mental and physical constitution of the person himself, whether in short an insane diathesis is indicated. Pre-

disposition to Insanity might exist in a female, and it be thought that marriage would exercise a favorable influence over the system and lessen the probability of an attack. We confess that in such a case we should greatly hesitate to encourage marriage. Certainly, if in ever so small a degree there is to be a stamping out of Insanity, we must act on the principle, better let the individual suffer, than run the risk of bequeathing a legacy of Insanity to the next generation. Respecting those who have been actually insane, we hold that the strongest dissuasion ought to be employed to prevent the marriage of females who have not passed the child-bearing period of life. With regard to males, marriage would no doubt be highly beneficial in many instances, and if the risk of progeny is not run, may well be encouraged, provided the consenting party is fully informed of the individual's prior history and of the degree of liability of a relapse which exists. Every psychological physician has known instances in which the comfort of a *quondam* patient has been vastly increased, and the probability of a relapse proportionately lessened; the union proving in all respects a happy one. He may also be able to recall cases in which, not the individual who had been once insane, but the person who had risked having an insane partner for life, was the one to become the subject of mental disease. We have known a gentleman not only marry and have no relapse, but become himself the head of an establishment for the insane. Clearly, then, all the circumstances of each case, the apparent amount of predisposition, and the signs of an insane diathesis, must be taken into consideration rather than the adoption of an inflexible rule, but both in these cases and where there has been actual Insanity, primary regard should be had to the risk of a family. Undoubtedly, however, it is much easier to say theoretically what ought to be advised than to give this advice consistently and resolutely in individual instances. Besides, in many cases the physician's counsel, however excellent, will have too powerful an antagonist to contend with to allow of its being followed.

Some difference in the opinion formed of the undesirable character of such connections may reasonably be made between those cases in which the ancestor has become insane after, and those in which he (or she) has become so before, the birth (conception) of the child. For while in the former it is possible that the germ of Insanity may have been latent in the constitution of the parent, and as such be transmissible, the danger of

transmission becomes a certainty, if the nervous system has been the seat of mental disorder prior to the generation of the offspring. The exciting cause of the malady when the attack occurs in an individual after giving origin to a new life, may greatly affect the judgment formed by the physician; for instance, Insanity from an accidental cause, as a blow, or simply from old age, should be differently regarded as a proof of constitutional tendency to Insanity, than spontaneous mental disorders occurring in the prime of life.

Burrows, among the first to treat this question as one of grave practical import, expresses himself in favour of "greater precaution in matrimonial connections," and quotes from Boethius that in old times when a Scot was affected with any hereditary disease "their sons were emasculated and their daughters banished, and if any female affected by such disease were pregnant, she was to be buried alive." It is very remarkable that after all that has been said and done in our day in stamping out disease, and after a much fuller appreciation of the subtle influences of ancestral tendencies, there should be something like an opposite current of feeling which would look almost with favour, certainly not with horror, upon even fruitful marriages among those belonging to "an insane family." Thus, Dr Maudsley inclines to think that "to forbid the marriage of a person sprung from an insanely disposed family, might be to deprive the world of singular talent or genius, and so be an irreparable injury to the race of man." With our present ignorance of the laws of human production, he cannot think that "Science has yet the right to forbid marriage to those in whom some tendency to Insanity exists." In regard to men and women who have had actual attacks of Insanity, he admits that one may justly use the strongest words of dissuasion, "but how much further than that one is justified in going, does not seem at all clear." In cases of Puerperal Insanity he would not necessarily endeavour to prevent a woman having children afterwards, but would be guided in each instance by special circumstances. In this conclusion all probably would unite. We should, however, as already intimated, be more inclined than Dr Maudsley to discourage marriage among those predisposed to mental disease.

It is certainly a happy law of nature, as some set-off against the melancholy results of propagation among the insane, that, sooner or later, beings labouring under the lower forms of

mental disease die out. The mental faculties and bodily powers are at last reduced so low, that *ex nihilo nihil fit.*

Prosper Lucas clearly laid down the law that "there exists an inferior degree of mind in which the anomalous state of the mental force sinks so low beneath the natural order, that reproduction of it is almost impossible" (op. cit., vol. i, p. 579).

The student wishing to work out this subject thoroughly must study Morel's able work, 'Traité des Dégenérescences Humaines,' in which the influence of insanity is traced through several generations with great care, and with the result above stated.

Constitution or diathesis.—This is a circumstance constituting a predisposing cause of Insanity, which is separated by very delicate lines from the disease itself on the one hand, and from hereditary predisposition on the other. Thus, for instance, in close connection with hereditary descent, but not necessarily derived from it, there is a certain constitutional weakness of mind which, falling far short of Imbecility, may be regarded as predisposing an individual to mental derangement—that is to say, he might escape without injury many of the trials of life but for this limited mental calibre.

Then, again, many are constitutionally melancholy, and end in becoming melancholiacs. Esquirol recognised this, and expressed a general rule, in a more unqualified way than we should be disposed to do, when he said that melancholiacs are born with a peculiar temperament, which disposes them to Melancholia.

The events happening during fœtal life, or at birth, already mentioned, and, indeed, many circumstances apart from the insanity of ancestors may clearly induce a mental constitution which forms a predisposition to Insanity.

An insane diathesis may, then, be hereditary or not. It is rare for writers to recognise this distinction, but, we hold it to be very important, for it frequently happens that when we fail to obtain evidence of insane relatives, and, indeed, when there is positive evidence to the contrary, we find unmistakable indications of an original make of mind, so to speak, which constitutes a predisposing cause of the attack, and fully explains its occurrence.

Whether this diathesis be hereditary or not, it is important to be alive to the indications of its presence. These are various. Thus the excitable, nervous, and melancholic tem-

peraments are well marked. A character in which overweening pride is a natural characteristic may be said to predispose to monomania of a certain kind.

Again, in the individual's history there are after occurrences indicating this neurosis. Such are those pointed out by Anstie—(1). Premature occurrence of puberty; sexual precocity. (2.) Unexpected development of intense artistic feeling in children born of a naturally commonplace family. (3.) Convulsions during teething, without adequate cause. (4.) The development of a habit of lying or stealing in well-trained children.

It may be said that no cause or combination of causes is so powerful as the natural constitution of mind. If a man has a weak point somewhere in his head, it is like a weak link in his watch-chain, which, on the occasion of a very slight strain, gives way, and the watch is lost. It is the defect in the chain which is the really important factor in its breakage, not the little accident which corresponds to the exciting cause.

Consanguineous Marriages.—We may refer here briefly to the important question of the influence of *marriages of consanguinity* upon the generation of Insanity. It is a very complex one, and in our judgment it is far from being thoroughly worked out. On the one hand, those who deny the ill effects of these unions point to such facts as the following:

Among animals, certain valued varieties are propagated within narrow limits, without their deterioration; certain breeds of cattle and Arabian horses are noted for beauty and health while crossing has been studiously avoided. When deterioration occurs in animals among the offspring of parent and child, it is explained by the age of the former. Among men there are certain people, as the Indians of North America, among whom very little Insanity or Idiocy exists, and yet marriages within very near degrees of relationship are common; some chiefs, also, in the South Sea Islands are remarkable for their strength and vigour, but are descended from a stock carefully limited in its alliances. The custom of the patriachs is further adduced—the marriage of Abraham to his half sister, of Isaac to his first cousin once removed, and of Jacob to his first cousin, without any known injurious results.

An important contribution towards the solution of this question has recently appeared, 'The Marriage of Near Kin,' by Alfred Henry Huth, 1875, and to it the reader is referred, as

containing the most able and exhaustive defence of consanguineous marriages which has yet appeared. Mr Huth while admitting that deterioration through the accumulation of an idiosyncrasy is more likely to occur in families in which the marriages of blood relations are habitual, endeavours to show that practically this does not occur oftener than in other marriages.

These are the main circumstances brought forward in support of the innocuousness of the marriage of near relations, and they have a certain amount of weight, but they are not sufficient, the writer thinks, to justify us in encouraging the marriage of near cousins, for this reason, that if any taint of insanity does exist in the blood, it will be intensified. If the stock is quite healthy, it is probable that no ill effects will follow.

Dr Morel believes that experience shows the injurious influence of such unions, sooner or later, "in a peremptory manner," and refers to the aristocracies of France. Dr Bemiss has published some striking facts bearing upon this question, which we extract from the 'Medico-Chirurgical Review' for July, 1860:

Of 31 children born of brother and sister, or parent and child, 29 were defective in one way or another; 19 were idiotic, 1 epileptic, 5 scrofulous, and 11 deformed. Of 53 children born of uncle and niece, or aunt and nephew, 40 were defective; 1 deaf and dumb, 3 blind, 3 idiotic, 1 insane, 1 epileptic, 12 scrofulous, and 14 deformed. Of 234 children born of cousins, themselves the offspring of kindred parents, 126 were defective; 10 deaf and dumb, 12 blind, 30 idiotic, 3 insane, 4 epileptic, 44 scrofulous, and 9 deformed.

Of 154 children born of double cousins, 42 were defective; 2 deaf and dumb, 2 blind, 4 idiotic, 6 insane, 2 epileptic, 10 scrofulous, and 2 deformed. Of 2778 children born of first cousins, 793 were defective; 117 deaf and dumb, 63 blind, 231 idiotic, 24 insane, 44 epileptic, 189 scrofulous, and 53 deformed. Of 513 children born of second cousins, 67 were defective; 9 deaf and dumb, 5 blind, 17 idiotic, 1 insane, 6 epileptic, 15 scrofulous, and 9 deformed. Of 59 children born of third cousins, 16 were defective; 3 deaf and dumb, 1 idiotic, 1 insane, 2 epileptic, and 10 scrofulous.

These facts, however interesting, must not be taken as necessarily proving that intermarriage caused all these diseases. In many of these cases it cannot be doubted that the intemperance

and immorality of the parents had a large share in producing insane and idiotic offspring.

Out of 711 idiots, 98 or 13·7 per cent. were found by Dr Arthur Mitchell* to be the offspring of blood relations, viz. first cousins in 42 instances; second cousins in 35; third cousins in 21. As in 84 instances no information could be obtained, the per-centage would be 15·6, if calculated on the number in which the facts were known. In contrast with this, he places the percentage of consanguineous marriages in Scotland at 1·3 per cent., or ten times less than with idiots. In regard to those mentally affected in another district, Dr Mitchell found in 260 persons 16 per cent. were the children of first, second, or third cousins; or, if reckoned upon the cases in which particulars could be procured, 23 per cent. Much lower percentages have been arrived at by Dr Down. Of 852 cases of idiocy he obtained definite information in regard to parentage, with the following result:—46 were the progeny of first cousins, 6 of second cousins, and 8 of third cousins, being 7 per cent. in which blood relationship existed in the parents. On the other hand, the parental relationship of 200 sane and healthy persons in the community were examined into, and it was found that only one was the offspring of cousins. One cannot, therefore, as Dr Down observes, resist the conviction that the union of blood relations has some influence in the deterioration of the species. Finding, however, as he did on inquiry into the causes of idiocy in the above cases, that there was, as regards a considerable number, hereditary predisposition and other factors of mental disease, he arrived at the conclusion that "consanguinity is only *one* of the factors, and not the most important one, in the production of deterioration." ("Marriages of Consanguinity in relation to Degeneration of Race," 'London Hospital Clinical Lectures and Reports,' 1866.) It is probable that, if Dr Mitchell's cases were further traced, many other causes than consanguinity would be discovered to have been in operation. Illegitimacy is one to which he has himself referred. Again, Mr Geo. H. Darwin considers, from the inquiry he has made into the amount of consanguineous marriages in the community at large, that Dr Mitchell's estimate ought to be raised considerably higher. In a paper in the 'Statistical Society's Journal,' June, 1875, he arrives at the conclusion that about 4 per cent. of all marriages are between first cousins; in the country and

* 'Edin. Med. Journ.,' vol. x, 1865.

smaller towns between 2 and 3 per cent.; in London, perhaps as few as 1½ per cent. He obtained returns from lunatic and idiot asylums, but those who drew them up regarded them as extremely imperfect, and therefore they are so far misleading. From these it appeared that 3 or 4 per cent. of the patients were the children of first cousins, and therefore not greater than in the general population. He confesses that his labours are far from giving anything like a satisfactory solution of the question.

At its Annual Session, in 1869, the New York State Medical Society received the report of a Committee appointed to investigate the influence of consanguineous marriages, and the following important statistics, for which we are indebted to the 'American Journal of Insanity,' 1870, were obtained:—The offspring resulting from 32 marriages of consanguinity are tabulated—127 in number. There were 8, 11, 12, and in one family 14 children; making an average of 4 children to each marriage, and some of the couples were still productive (comparing favourably with the average of *three* children). Fourteen of the above 127 children died under 2 years, or 11 per cent., the average mortality at that age in New York being 38 per cent. Of 12 who deviated from health, 5 were scrofulous, 2 were deaf mutes, 1 epileptic, 1 "simple," 1 had amaurosis, and 2 a peculiar deformity. Of the scrofulous children, one or both parents were either scrofulous or tuberculous in 6 cases. In the next group there are 3 cases in which there was a predisposition to Insanity. In the first an uncle, aunt, and sister of the wife died insane, the husband was always in poor health; they have 5 children all in tolerable health. In the second case the husband and the wife's mother died insane; the children are all healthy; 1, a daughter of the above, married a near relative and her children are free from any disease; they are now respectively 34, 32, 30, and 26 years old. Of the 14 remaining cases in which the parents had good constitutions, the children are, without exception, healthy, some of them possessing decided genius as writers. Dr Jarvis (Mass.), so well known for his devotion to all questions relating to Insanity and the insane, in a letter addressed to Dr Newman, who reported on behalf of this Committee, observes that when the parents (being nearly related) have both perfect constitutions, the offspring have a double security against imperfection; *the converse being also true.* Hence, the

objection does not rise from "*the bare fact of their relationship*, but in the fear of their having similar vitiations of constitution." The practical inference is that first cousins should not marry unless both they and their ancestors have been free from Insanity. However healthy themselves, if a near ancestor has been insane, the physician when consulted must say "I forbid the banns." Although, therefore, it may be quite true that consanguinity in itself does not create mental disease, it is so difficult to ensure the sound constitutions of the parties marrying and of their ancestors that the marriage of those near of kin is very often undesirable.*

Relative Liability of the Sexes to Insanity.—The conclusion at which Cælius Aurelianus arrived, that women are less subject to Insanity than men, has been disputed by Esquirol, Copland, Burrows, and others. Dr Haslam likewise stated, that "in our own climate women are more frequently afflicted with Insanity than men." Sufficient, care, however, does not appear to have been taken to ascertain the relative number of males and females in the general population, a point obviously necessary to determine, before any just conclusion can be drawn as to the relative liability of the sexes to Insanity. Most writers having found the existing number of female lunatics greater than that of the males, have arrived at the conclusion that the female sex is more subject to Insanity than the male. Moreover, the preponderance of women over men at those periods of life during which Insanity most frequently occurs was not recognised by Esquirol. Dr Thurnam, however, has clearly pointed out this source of fallacy, as well as that which arises from the fact that the mortality of insane men exceeds (in English asylums, at least) that of insane women by 50 per cent. Hence it is obvious that writers have erred in comparing the *existing* instead of the

* The reader wishing to pursue the subject should refer to two able papers by Dr Sedgwick, "On the Influence of Sex in Hereditary Disease," in the 'Medico-Chirurgical Review,' April and June, 1863. See also an article by Dr Child in the same Journal for April, 1862; Boudin, "Danger des unions consanguines et nécessité des croisements dans l'espece humaine et parmie les animaux," 'Annales [d'Hygiene,' 1862; Devay's 'Hygiene de Famille,' 2nd edit.; Burton's 'Anat. of Mel.;' Whitehead's 'Hereditary Disease;' Maudsley "On Hereditary Tendency," 'Journal of Mental Science,' Jan., 1863, and Jan., 1864; Marcé, 'Des Maladies Mentales,' 1862; Moreau (de Tours), 'Psychologie Morbide;' Étude sur les mariages consanguins. Par Chipault. Paris, 1863. Studj sui Matrimonj Consanguinei. Sg. Paolo Mantegazz, Milan, 1868. Dr Arthur Mitchell, "Consanguineous Marriages," 'Edin. Med. Journ.,' 1865, and the articles of Dr Down (1866), and Mr Darwin (1875), referred to in the text.

occurring cases of Insanity, in the male and female sexes. If, in our asylums, women live longer than men, they will, of course, proportionately accumulate.

The preponderance of females over males in England and Wales at the last Census (1871) was 594,398. This excess at all ages does not, however, prevent the proportion of *existing* insane being greater among women than men, viz. 1 to 379 of the former, and 1 to 425 of the latter. The number of females living above the age of fifteen exceeded that of the males at the same period of life by 8·8 per cent. This, of course, is the period of life which, owing to the *comparative* infrequency of Insanity before the age of fifteen, is very important in the present inquiry. There is a large excess of females between twenty and fifty (except in a few mining districts). Between twenty and thirty, the importance of which period will be seen when we speak of "age," we find the excess of females to be at a maximum. Between thirty and forty the excess is still considerable.

"In order that the comparison of the occurring cases be a strictly accurate one," observes Dr Thurman, the proportions of the two sexes at the several ages *attacked with Insanity*, for the first time, should be compared with the proportions in which the two sexes at the same ages *exist* in the community in which such cases occur. The nearest approximation to this method which we have the means of employing is, by assuming that the proportions of men and women *admitted* into public institutions during extensive periods, represent—as, on the whole, they probably do represent—the cases which *occur* for the first time" (op. cit., p. 149).

From an examination of a table prepared by this writer, we ascertain that, in twenty-four of the thirty-two asylums which it comprises, there has been a decided excess of men in the numbers admitted. In many British asylums, the excess amounts to 25, 30, and even 40 per cent.; and, in the whole number of thirty-two asylums, there is an average excess on the side of the male sex of 13·7 per cent. In the nine English county asylums contained in the table, the excess amounts to 12 per cent.

From the same table, it appears that, in the asylums of the metropolis, the proportion of females admitted is much greater than in the provinces. This, as regards the admissions from London itself, is accounted for by there being a considerable

excess (13·7 per cent. at all ages, and 21·3 per cent. at all ages above 20) of women over men in the metropolis.

In the "Rapport sur le service des Aliénés du Département de la Seine," 1877, it is stated that up to 1860 the admissions of female lunatics were greater than those of men, while since that period, the proportion is reversed. (From 1860 to 1870, 52·96 per cent. men, against 47·04 per cent. women; and from 1871 to 1876 54·65 per cent. men, against 45·31 per cent. women.)

Dr Jarvis, in a treatise on this subject, after examining the statistics of asylums in Great Britain, Ireland, France, Belgium, and America, has arrived at the conclusion that "males are somewhat more liable to Insanity than females." He justly observes that the liability of the sexes, "must vary with different nations, different periods of the world, and different habits of the people" ('On the Comparative Liability of Males and Females to Insanity, 1850'). On the whole, it is clearly proved that, in general, fewer women, as was taught by Cælius Aurelianus, become insane than men, although it is difficult to establish that the female sex is intrinsically less susceptible to the causes of Insanity than the male, since the former is less exposed to those causes than the latter.

This difficulty does not alter the fact that Esquirol's conclusion is reversed, when we take into account the great excess of females in the population between the ages of twenty and fifty (the age specially subject to attacks of Insanity), and the fallacy of drawing conclusions from existing instead of occurring cases, on account of the accumulation of females in asylums by reason of their low mortality.

Age.—Without reference to cases of Idiocy and Imbecility, it may be observed that no age is exempt from attacks of Insanity. Such attacks, it is true, are comparatively infrequent under fourteen or fifteen years of age. Scattered throughout this work, however, will be found a considerable number of references to cases of Insanity under puberty, and they might have been considerably increased. They are met with in private practice much more frequently than in asylums, the statistics of which, therefore, give too favorable an impression as to the frequency of attacks of Insanity in the young. Between fifteen and twenty attacks increase; while between twenty and fifty they are the most frequent. Whether they preponderate between twenty and thirty, or thirty and forty, may admit of question.

During the forty-four years between 1796 and 1840, of those admitted at the Retreat, the greater number, one third of the whole, were *attacked* between twenty and thirty years of age. Each subsequent decennial period is marked by a gradually decreasing proportion. Thus :—

Of every hundred cases, at the origin of the disorder, there were, at successive decennial periods of life, as follows ('Statistics of Insanity,' p. 71) :—

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90
96·	12·77	32·53	20·	15.9	10·6	6·03	·97	·24 = 100

Now, it is obvious that, to render these statistics of any value, they must be compared with the numbers living in the same community at the same periods of life. This means of comparison we afford in the following table :

Of every hundred individuals there were living in 1841, at successive decennial periods of life, as follows :

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90
25·0	20·8	18·0	13·0	9·6	6·4	4·4	2·2	0·6 = 100

From which it is evident that the large proportion of persons who became insane (of those admitted at the Retreat) between twenty and thirty years of age, cannot be explained by the greater proportion of the number living at that period.

When the whole of this series is worked out the order of frequency of attack in the decennial periods, was as follows :— 20—30 (maximum) ; 30—40, 40—50, 50—60, 60—70, 10—20, 70—80, 80—90, 0—10 (minimum). It will be seen from this that, not reckoning attacks prior to man's majority, the decades follow in their natural order. With regard to the decade 20—30, the experience of the American asylums* and some others, including that of Turin (Bertolini's tables), accords with the above result. If the experience of these institutions can be taken as fairly representing asylums generally, we should infer the increased liability of man to Insanity between the ages of 20 and 30, or that during this period he is brought into contact with an increased number of the causes of Insanity ; probably both. The admissions into many other asylums do not, how-

* Dr Pliny Earle's valuable compendium of the medical statistics of the Northampton Lunatic Hospital (Mass.) relative to the admission of 1074 patients (1873). As already stated in regard to American asylums generally, the liability to attack is shown to be greatest between 20 and 30 years of age. Then follow :—30—40 ; 40—50 ; 50—60 ; 60—70 ; 10—20 ; 70—80. These calculations take into account the numbers living at these periods of life in the general population.

ever, exhibit a similar preponderance between 20 and 30, but between 30 and 40. And although it must be remembered that *admissions* do not necessarily agree with the periods of *attack*, and that, therefore, such preponderance in the latter decade might be true of admissions, and not of attacks, it would seem, from a table prepared by Dr Thurnam, exhibiting from various asylums in Britain the period of attack, that the larger number of cases of Insanity admitted into these institutions occurred between 30 and 40, not, as at the Retreat, Turin, and the asylums of America, between 20 and 30. Also, in these asylums more become insane between 40 and 50 than between 20 and 30. But it is probable that, while this may be true of pauper lunatics, there would, among the upper classes, be a larger proportion of attacks between 20 and 30 than 40 and 50. Be this, however, as it may, Insanity is more frequent in manhood and in middle life than subsequently from 50 and upwards. The order of frequency in decennial periods is, according to the above statistics, as follows :—30—40 (maximum), 40—50, 20—30, 50—60, 60—70, 10—20, 70—80, 80—90 (minimum).

In the Report of the Poor Law Board for 1859-60 an attempt is made to determine the age at the time of attack of 13,672 lunatics chargeable to the Poor Rates, January, 1st, 1859. We have compared these returns with the numbers living at the same ages in the general population, and, with this correction, find the succession of decades to be as follows :—30—40 (maximum); 40—50, 50—60, 20—30, 60—70, 70—80, 80—90, 10—20. We should suppose that in a large proportion of cases the age when the disorder *first* manifested itself was not accurately ascertained. Although, however, an imperfect return of this kind must have the effect of post dating the age specially liable to attacks of Insanity, there is considerable agreement between it and the last given decennial series, and when males only are taken, the agreement is almost complete.

The Roman ages of man, according to the division of Varro, were five in number, ending with 15, 30, 45, 60, 75 and upwards. The first may be made to comprise the risks to which the embryo, the suckling, the tooth-cutting child, and the youth arrived at puberty, are exposed; it is the age of Idiocy and Imbecility, but none of the foregoing statistics exhibit congenital disease; we have no account of the number of idiots annually *born* to compare with the total number of births. This fact must be borne in mind in regard to attacks of Insanity "under 15." The

second age develops the passions of manhood, and adds marriage, external excitement, and the struggles of early manhood; the liability to Insanity is greatly increased, and, according to the statistics of some institutions, attains its maximum. The third epoch, ending with 45, witnesses the termination of the reproductive age of woman; with man it is the period of hopes and disappointments, of greater strain and anxiety, but also of greatly augmented capacity and knowledge. Shall we say it is man's age of civilisation? It is, at any rate, that which statistics at present point to as the one during which, in Britain, a majority of persons appear to become insane. The fourth epoch, if in some respects one of still greater consolidation and matured wisdom, does not close without some indications of declining power; the tendency to Insanity is less. The fifth age succeeds man's grand climacteric; the liabilty to acute attacks of mental disease is still smaller; but ere it terminates, man becomes subject to mental decay or second childhood; the "pitcher is broken at the fountain, and the wheel at the cistern."

The Seasons; Climate.—M. Parchappe has supplied us with some carefully prepared statistics on this subject. Thus, he found that out of 2669 admissions, the period of the year was as follows:

	During the Six Summer Months. (March—August.)		During the Six Winter Months. (September—February.)	
	No.	Prop. in 100.	No.	Prop. in 100.
Men . . .	779	56·0	612	44·0
Women . .	668	52·3	610	47·7
Both Sexes .	1447	54·2	1222	45·8

This result—the greater frequency of attacks of Insanity, or at least admissions into asylums in the summer months—accords with the experience of Esquirol. It must again be borne in mind that *admissions* and *attacks* are not necessarily identical.

Guislain observes that there is a relation between the warmth of the atmosphere and mental disturbance. A fall of temperature, on the other hand, often calms the insane. MM. Aubanel and Thore observe, as the result of their investigations, that the

month of June appears (in France, at least) to have the most influence in producing Insanity, then July and August, next May and April, January having the least influence. Periodical Insanity is especially manifested in the spring.

The question of the influence of climate would seem intimately connected with that of the seasons; but, as Guislain observes, "we do not, as might have been expected, find more Insanity in hot climates than in cold."

The statistics of Insanity in different countries are so unreliable for purposes of comparison that it is idle to compare them. Again, even if a hot climate were a predisposing cause, the larger amount of alcohol taken in northern countries would probably neutralise it.

[For information respecting the influence of seasons on suicide, see the section on Suicidal Insanity in this work.]

Moon.—Of the alleged influence of the luminary to which "lunacy" and "moonstruck" owe their etymology, it is necessary to speak briefly. The operation of the stars, if not the moon, on disease, was recognised by Hippocrates, and that of the latter was certainly admitted by Galen. From ancient to modern times the idea gained rather than lost strength, and Milton expressed a real belief, not a mere poetical figure, in the lines—

> "Demoniac phrenzy, moping melancholy,
> And *moonstruck* madness."

Rush believed that there was an equal amount of truth on the side of those who admit and those who deny the influence of the moon, and reconciled the two by supposing there to be a kind of sixth sense—a perception of the state of the air and of light and darkness, to which we are insensible in health, and that the full moon rarefies the air and increases the amount of light, and so acts upon the insane. He thought that probably few in asylums had the requisite predisposition or sensibility; and hence observers overlooked the fact. Dr Rush notices, in connection with the observation that light in itself tends to excite, and darkness to calm many of the insane, that during the eclipse of the sun in 1806 "there was a sudden and total silence in all the cells of the hospital." His conclusion on the whole question was that the cases are few in which the insane feel the influence of the moon, and that mere increase of light is sufficient to explain excitement in such cases ('Med. Enquiries,' &c., p. 170).

Esquirol, who derived *μανία* from *μήνη* (moon), and connects it with the superstitious belief of the ancient idolaters in astrology, observes, after quoting Daguin's 'Philosophie de la Folie' in favour of the influence of the moon, "Certain isolated facts and phenomena observed in many nervous diseases would seem to justify this opinion," but adds, "I have been unable to verify this influence, though I have been at some pains to assure myself of it. It is true that the insane are more agitated at the full moon as they are also at the early dawn of day; but is it not the bright light of the moon that excites them, as that of day every morning? Does not this brightness produce in their rooms an effect of light which frightens one, rejoices another, and agitates all? I am convinced of this last effect from causing the windows of certain insane persons who had been committed to my charge as "*lunatics*" to be carefully covered." He says nothing at the Salpêtrière or the Becêtre confirmed the idea. "Nevertheless," he adds, "an opinion which has existed for ages—which has spread over all lands, and which is consecrated by popular language—demands the most careful attention of observers" ('Maladies Mentales,' tom. i, p. 29).

Such attention may be said to have been given, and with negative results like those obtained by Leuret and Mitivié, who, in their work 'De la fréquence du pouls chez les aliénés,' represented by engravings the phases of the moon and the daily pulsations of the insane, during a month in summer and one in winter.

Rush's fellow-countryman, Dr S. B. Woodward, after a careful comparison of ninety cases of death with the phases of the moon, failed to find any relation between them, and says, "These facts and coincidences we leave for the present with the single remark that no theory seems to be supported by them, which has existed either among the ignorant, or the wise men who have been believers in the influence of the moon upon the insane."

From a Report of this asylum (1848) we find that the superintendent, Dr Hopkins, agrees with this opinion, and says, "Many patients are certainly more excitable and restless on pleasant moonlight nights than in dark and gloomy weather; but this would seem to be occasioned by the real or imaginary sight of objects in or without the building, such as men, trees, animals, &c., or the motion, perhaps, of the passing clouds."

Observations were made at the York Lunatic Asylum by Dr Allen, the superintendent, about half a century ago, from which

he came to the conclusion that the influence of the moon on the *period of death* was very decided, and he connected this with the increase of excitement occurring at the new and full moons. At the York Retreat Dr Thurnam, struck by these results, constructed a table showing the age of the moon at the time of the occurrence of 139 deaths (1796—1840), a much larger number than those on which Dr Allen's conclusions were based, and the result was that his observations received no confirmation whatever; thus, while the York Asylum table shows 15 deaths at the new moon, 11 deaths at the full moon,* only 1 death at the first, and 3 deaths at the last quarter; the Retreat shows for the corresponding periods 40, 33, 34, and 32 deaths. Taking Dr Woodward's ninety cases already referred to, their relation to the same quarters was found to be 20, 21, 22, 27 respectively. So that neither at the Retreat nor at the Worcester Asylum (U.S.) was there any special morbid influence exerted at the new and full moon, compared with the first and last quarters, as appeared to be the case at the York Asylum from insufficient data.† (See Allen's 'Cases of Insanity,' pp. 76—104; 'Annual Report of the Worcester Asylum, 1841,' and 'The Statistics of the Retreat,' pp. 113—117. Mead, 'De imperio solis et lunæ in corpore humanâ et morbis;' Orton, 'On Cholera.' Laycock, 'Lancet,' 1842-3, 'On Lunar Influence;' Arago, 'Meteorological Essays.' Dr Lardner, 'On Lunar Influence;' Winslow, 'Psych. Journal,' 1856).

Occupation, Town and Country Life, &c.—Dr Prichard states that "a most remarkable difference is found in the proportional number of lunatics in agricultural and in manufacturing districts. Previous to inquiry, we should conjecture that the causes of Insanity would have more influence, and the disease be more prevalent, in a manufacturing than in an agricultural population; but the contrary is the fact" ('Treatise,' &c., p. 334).

Dr Parchappe arrived at the conclusion that, so far as regards the population of the Lower Seine, the country people are less affected with Insanity than the town people. "We may legitimately conclude," he says, "from the facts collected at the asylum at Rouen, that the circumstances which surround the

* Mr. Luke Howard found that the barometer is affected by the changes of the moon, being lower with the new and full moon and higher at the first and last quarters. This receives general confirmation from the Falmouth Observatory.

† It will be observed that whatever evidence has been adduced of fluctuations in the excitement of the insane in connection with the moon, none whatever is alleged to exist *as a cause of lunacy*.

inhabitants of the great centres of population in the Lower Seine, constitute for them a predisposing cause of mental alienation." ('Notice Statistique sur les Aliénés de la Seine Inférieure,' p. 30.)

The large experience of Dr Guislain led him to the same result. Further, the excellent French 'Lunacy Reports' of M. Béhic show that, as regards the whole of France, the amount of Insanity among the "professions agricoles" is very low, while it is high in the "professions libérales." It seems that the French peasant is much more favorably situated than the English agricultural labourer.

It is fully admitted that if in England and Wales we take the proportion of pauper lunatics to the population (not to paupers) in each county, there are more in the agricultural than in the manufacturing counties (see Table II, p. 86); for example, Lancaster and the West Riding of Yorkshire are below the average of England and Wales, and Dorset and Wilts above the average; Hereford being highest of all. There are exceptions as regards a county here and there, but the statement is true of groups. The figures supporting this statement are of interest, and we do not ignore them, although they are, to some extent, open to objection as evidence of the fact in favour of which they are adduced. On the other hand, in the Reports of the Scotch Commissioners, and especially in that for 1875, it is shown that while three Highland counties (Argyll, Perth, and Inverness) have, in proportion to the population, a decidedly heavier persistent burden, as regards pauper lunacy, than two manufacturing counties (Renfrew and Lanark) have, the number of lunatics receiving relief—actually coming under treatment—is proportionally larger in the latter than the former, *i.e.* a higher proportion of fresh cases of pauper lunacy appears on the poor-roll in urban than in rural districts, the alleged reasons being (1) the greater number of transitory forms of Insanity in towns; (2) the more easily obtained admission and accommodation. In the country, the persistent lunacy is ascribed to (1) the migration of the robust to the towns; (2) the emigration* of many of the mentally and physically

* Dr Thurnam also, in his Annual Report, 1870, says, speaking of Wilts, that during 1851–61 there was a very considerable exodus of the labouring population. As it would, as a rule, be the more healthy and energetic men who would leave their homes, there would result an increase in the relative proportion of the bodily and mentally weak, and the effect could hardly be other than that of filling the union

healthy, so leaving a disproportionate number of weak-minded behind. In the Report, a table prepared by Dr Sibbald shows that, while at the end of the year 1872 there were 177 lunatics per 100,000 in the principal towns, this ratio being less than in the small towns and rural districts, the occurring Insanity was in the principal towns 80 per cent. more than in the rural districts and small towns. This is a remarkable illustration of the fallacy of drawing conclusions from *existing* instead of *occurring* lunacy, and shows how the foregoing statistics in England and Wales, in regard to urban and rural Insanity, may be found to admit of a different interpretation from that which they appear to bear, when the English Commissioners work out the subject in the same way as has been done in Scotland. The opinion of Dr Sibbald may then, it is not unlikely, be confirmed —that "a much larger number of persons become pauper lunatics in the principal towns than has generally been supposed," and also that "cases of general paralysis and other rapidly fatal diseases of the nervous system are more frequent in town than country, and it is probable that attacks of Insanity, swift in their onset and swift in their retreat, are also more common."

With regard to *particular occupations*, it is much to be regretted that any inferences should be drawn from the absolute number of patients following them, instead of from the proportion to the numbers in the population at large. Thus, if we take the number of clergymen and lawyers admitted at Bethlem Hospital during a certain period, we find them equal; and the inference might be drawn that they are equally liable to mental disease. But a calculation of the proportion to the numbers in the general population enables us to show the fallacy of such a conclusion. From this, it appears that lawyers are about doubly liable (as might have been anticipated) to this disorder. In the first edition of this work we gave a table showing the relative proportion of the insane to the sane in the various callings and occupations; the number of insane labourers, professional men, &c., in every 1000 sane. While this is clearly the only satisfactory way of arriving at sound conclusions as to the influence of occupations on the mind, we conclude to omit these statistics, on account of the imperfection of the returns of the occupations of insane persons in the Census. We must be content to wait until we have more correct statis-

houses and indirectly augmenting the proportion, perhaps even the numbers, of the insane.

tics within our reach, showing the relation between occupation and Insanity. So we wrote in the last edition of this work. The Commissioners in Lunacy have since inserted, for the first time, in their Report (1877), tables of the occupation of the patients admitted into asylums in England and Wales during the year. The largest proportion occurs among "persons engaged in the defence of the country;" the next in order, among "persons who buy or sell, keep or lend money, houses," &c. (merchants, bankers, travellers, costermongers, and so forth); the third, among "persons of rank or property not engaged in any office or occupation;" the fourth, among "the learned professions, or in literature, art and science;" fifth, among "persons engaged in entertaining and performing personal offices for man" (innkeepers, domestic servants, &c.); the sixth, "persons engaged in the conveyance of men, animals, goods, and messages;" the seventh, among "farmers, agricultural labourers, horse proprietors, fishermen," &c.; the eighth, among "persons engaged in art and mechanical productions;" the ninth, "among persons working and dealing in food and drinks, and in animal and vegetable substances" (not beersellers). Omitting some other classes, "scholars, children, and others of no occupation" are found at the bottom of the scale. It is to be regretted that some of the classes are so comprehensive as to include occupations having nothing in common, as farmers and fishermen, clergymen and actors; bankers and costermongers; wives of publicans and wives of shoemakers; so that it is impossible to determine the influence of some particular trade which it would be particularly interesting to ascertain. The statistics prepared by Dr Pliny Earle, referred to at page 75, bear on this subject. He says, in reference to the large number of farmers who appear from his tables to be insane, "Let us not hastily infer that, of all classes, farmers are the most subject to mental disorders. Nothing could be more erroneous. In the four counties from which the hospital chiefly derives its inmates, agriculturists are overwhelmingly more numerous than any other section of the population. So far as mere employment is concerned, as a generative cause of Insanity, the farmer is unquestionably less liable to that disorder than perhaps any other person. He is in a sphere more nearly natural than the artisans, the mechanics, and the professional men—persons of a civilisation abounding with artificial conditions and influences."

Civilisation.—Instead of entering fully as in early editions

into the consideration of the influence of civilisation as a cause of Insanity, we shall give the conclusions at which we arrived and to which we adhere:

1. That, while the greater facilities which exist in civilised countries for obtaining a knowledge of the number of the insane, and the greater degree in which the disease is recognised, render any just comparison very difficult, and tend to show a much larger proportion than is actually the case, there can be little doubt, nevertheless, after making due allowance for this source of error, that Insanity attains its maximum development among civilised nations, remaining at a minimum among barbarous nations.

2. That, having regard to the main causes of Insanity, there can be no reasonable doubt that, in modern civilised society, these outweigh the circumstances which might be supposed to favour mental health; these unfavorable causes being principally, the increased susceptibility of the emotions to slight impressions—the abuse of stimulants—the overwork to which the brain is subjected, especially in early life, by an overwrought system of education—and that condition of the lower classes which is a constant attendant upon civilisation—the higher emotions or moral sentiments, the lower propensities, and the intellectual faculties, being thus all subjected, separately or combined, to an amount of excitement unknown to savage tribes.

3. That, inasmuch as all civilisation is, up to the present time, to be regarded as imperfect and transitionary, it does not necessarily follow from the foregoing, that civilisation carried out to its perfect development—a civilisation which should exactly temper the force of the emotions, moderate intellectual exertion, and banish intemperance—would generate mental disease.*

If these conclusions be correct, and if, as statistics indicate, there is more insanity among the poor than the rich, we may say that—

Two great facts come out of this inquiry which appear at first sight to be contradictory, but which on examination are not in the least so, and are entirely consistent with the principles which

* Dr Earle, in the Report already made use of, speaking of those results of modern civilisation which are injurious, says, "Where these effects will end no prophet now can tell. But unless the race adapts itself more consistently and wisely to the change of circumstances, the prospect is anything but cheering to him who would wish to see a diminution, rather than an augmentation, of mental disorders."

medical psychology teaches. The one is that the liability to Insanity is infinitely less among savages than among civilised nations; less, for example among the North American Indians than the French or English; and less, it may be added, among a people presenting a peculiar and stationary form of civilisation like the Chinese than among Europeans. The other fact is this: that the liability to Insanity among the lowest—the most ignorant and degraded—class of a civilised people is greater than among the higher and educated classes. The mistake has been made of regarding as identical the condition of the savage and the English pauper, simply because both are ignorant. But here the similarity ceases; when, therefore, we are told that Insanity is a disease, not of civilisation, but of ignorance, the truth of the statement cannot be admitted, if the speaker is comparing civilisation and barbarism—the intellectual and civilised man with the ignorant savage. It is only true when by the terms employed it is intended to convey the idea that in a nation presenting the complex conditions of modern civilisation, the ignorant and degraded will supply a larger proportion of cases of Insanity than the more sober and better educated, not because they are ignorant, but because they are degraded. The confusion of terms now referred to is well illustrated by the common expression we employ in speaking of our "City Arabs," who differ from their prototypes in all important particulars in reference to the characteristics of barbarism and civilisation.

The increased liability to Insanity of a civilised over an uncivilised nation arises, then, from two very opposite causes. Both, however, have undoubtedly hitherto been (and probably always will be) the concomitants of what every one understands as civilisation. On the one hand, then, we have that severe—we might say desperate—intellectual and emotional strain which we affirm develops more Insanity than the opposite condition presented by the wild barbarian; and on the other hand, at the opposite end of the social scale, we have to contend with that accompaniment, if not product (however debased), of modern civilisation, an impoverished class with brains ill-nourished and yet frenzied by drink—exposed, in consequence, to the risk of madness—and if fortunate enough to escape themselves, certain in a large number of instances to sow the seeds of Imbecility or Insanity in their children. In short, if they, having no predisposition to Insanity, do not go mad, they generate an insane diathesis in the offspring. In such a conclusion there is nothing

to damp the energies of the educator. The practical deduction from these propositions is that, while we should advise a nation of savages to remain as they are (having regard simply to the liability to mental disorder), even if by changing their condition they should attain to the state of the higher classes of a civilised nation, we should as strongly and quite consistently advise the savages in a civilised community to change their condition and join the ranks of the well-nourished, well-educated, well-trained, and sober classes.

Pauperism.—The relation between poverty and Insanity may be further illustrated by the following tables.

TABLE I, *showing proportion of paupers to the population in the counties of England and Wales, on July 1st,* 1871, *calculated on the Census of* 1871, *and the Poor Law Returns of* 1871.

County.	Proportion.	County.	Proportion
Lancaster	1 to 38	Gloucester	1 to 19
Derby	„ 36	Hunts	„ 19
York, West Riding	„ 35	Rutland	„ 19
Chester	„ 34	Sussex	„ 19
York, East Riding	„ 34	Berks	„ 19
Westmoreland	„ 34	South Wales	„ 18
Warwick	„ 32	Devon	„ 18
Durham	„ 30	Hereford	„ 18
York, North Riding	„ 29	Hants	„ 18
Salop	„ 29	Northampton	„ 17
Cumberland	„ 27	Oxford	„ 17
Stafford	„ 27	Herts	„ 16
Worcester	„ 26	Somerset	„ 16
Nottingham	„ 26	Suffolk	„ 16
Middlesex	„ 25	Beds	„ 16
Northumberland	„ 24	Cambridge	„ 16
Leicester	„ 24	Bucks	„ 16
Surrey	„ 24	Essex	„ 16
Kent	„ 22	North Wales	„ 15
Lincoln	„ 21	Norfolk	„ 15
Cornwall	„ 20	Wilts	„ 14
Monmouth	„ 20	Dorset	„ 14

TABLE II, *showing the proportion of pauper lunatics to the population of the counties of England and Wales, calculated on the Census of* 1871, *and the Lunacy Report of* 1872.

County.	Proportion.	County.	Proportion.
‡Durham	1 to 775	Cornwall	„ 633
‡York, West Riding	„ 663	‡Chester	„ 538
‡Stafford	„ 649	‡Derby	„ 529

County.	Proportion.	County.	Proportion.
†Westmoreland	1 to 517	‡Northampton	1 to 398
†York, North Riding	„ 514	†Somerset	„ 395
† „ East Riding	„ 495	†Sussex	„ 394
†Lincoln	„ 495	†Suffolk	„ 394
‡Lancashire	„ 493	Monmouth	„ 392
†Northumberland	„ 493	†Hants	„ 389
†Cumberland	„ 484	Salop	„ 382
South Wales	„ 466	†Dorset	„ 381
‡Nottingham	„ 463	†Norfolk	„ 375
†Kent	„ 444	†Herts	„ 361
†Cambridge	„ 442	†Bucks	„ 354
†Hunts	„ 433	†Berks	„ 332
North Wales	„ 429	Middlesex	„ 328
†Essex	„ 424	‡Leicester	„ 323
Devon	„ 417	‡Gloucester	„ 323
‡Warwick	„ 407	†Wilts	„ 319
†Beds	„ 404	Oxford	„ 318
†Rutland	„ 403	†Worcester	„ 304
†Surrey	„ 399	†Hereford	„ 295

† These counties are mainly agricultural. ‡ Mainly manufacturing.

TABLE III, *showing the proportion of pauper lunatics to paupers in the counties of England and Wales, calculated on the Poor Law Returns of* 1871.

County.	Proportion.	County.	Proportion.
Cornwall	1 to 31	Kent	1 to 20
Cambridge	„ 28	Northumberland	„ 20
North Wales	„ 28	Monmouth	„ 20
Essex	„ 27	Oxford	„ 19
Dorset	„ 27	York, WestRiding.	„ 19
Durham	„ 26	„ North Riding	„ 18
Beds	„ 26	Berks	„ 18
South Wales	„ 26	Cumberland	„ 18
Norfolk	„ 25	Notts	„ 18
Suffolk	„ 25	Gloucester	„ 17
Somerset	„ 25	Surrey	„ 17
Northampton	„ 24	Hereford	„ 16
Stafford	„ 24	Chester	„ 16
Lincoln	„ 24	York, East Riding	„ 15
Wilts	„ 23	Westmoreland	„ 15
Devon	„ 23	Derby	„ 15
Hunts	„ 23	Leicester	„ 14
Bucks	„ 22	Salop	„ 13
Herts	„ 22	Warwick	„ 13
Rutland	„ 21	Middlesex	„ 13
Hants	„ 21	Lancaster	„ 13
Sussex	„ 21	Worcester	„ 12*

* The reader will find much valuable information in an article by Dr Clouston in

Marriage.—M. Parchappe analysed the condition, with regard to marriage, of 17,932 patients, in various asylums, and calculated that 49 per cent. were single, while 40 per cent. were married. Eleven per cent. were widowed.

Very similar relative results (taking both sexes) are obtained when the admitted civil condition of the patients during a certain number of years at the Bicêtre and Salpêtrière is compared with the corresponding civil condition of the population in Paris.

The experience of the Retreat has shown that, of the patients therein admitted, a large majority had never been married, namely, two thirds.

It appears from Dr Needham's Report for 1872, which contains some carefully prepared statistics, that at the York Asylum, during the last twenty-seven years, of 1029 admissions, 476 were single, 443 married. Male admissions numbered 603, of whom 278 were single, 257 married, and 68 widowed. Female admissions 426, of whom 198 were single, 186 married, and 42 widowed. We find that out of 1426 patients admitted into Colney Hatch Asylum during four years, their condition, with regard to marriage, was as follows :

Unmarried.	Married.	Widowed.
645, or 45·23 per cent.	643, or 45 09 per cent.	138, or 9·68 per cent.

Now it appears, from the Census of 1871, that the condition of the population of England and Wales, aged twenty and upwards, was, in respect of marriage, as follows :

	Unmarried.	Married	Widowed.
Males	27·12 per cent.	66·09 per cent.	6·79 per cent.
Females	25·85 „	60·55 „	13·60 „
Total	26·45 „	63·19 „	10·36 „

If, then, the preceding tables be compared, and the number of admissions under the three divisions in regard to marriage be compared with the numbers living in the population at large under the same divisions, it will be found that, although there are more than twice as many married as unmarried persons in England and Wales, there is a slight excess of the latter over the former in Colney Hatch Asylum. By a similar calculation we find the proportion still larger in the Wilts County Asylum.

So that not only was there a greater absolute number of patients admitted into Colney Hatch Asylum (even after exclud-

the 'Journal of Medical Science,' April, 1873, entitled "On the Local Distribution of Insanity, and its varieties in England and Wales."

ing the idiotic) who have never been married, but also a greater number relatively to the persons unmarried in England and Wales. Of course, in this calculation it is assumed that the conjugal condition of the locality from which patients are sent to Colney Hatch is not very different from that furnished by the Census of the general population.

It is proper to state that the inference drawn from the last and similar tables is somewhat qualified by the fact that the proportion of married persons between 25 and 40 (so important a period in regard to admissions) is less than in the adult population, *i.e.* from 20 and upwards. The reader will see this from the following statement of the proportions of the married and unmarried in England and Wales in 1871, between the ages of 25 and 40.

	Unmarried.	Married.	Widowed.
Males	26·85 per cent.	71·15 per cent.	2·00 per cent.
Females	25·86 „	70·14 „	4·00 „
Total	26·33 „	70·62 „	3·05 „

MM. Aubanal and Thore ascertained the condition of 8603 patients in various asylums on the Continent and in America as follows:—Unmarried, 4395; married, 2908; widowed, 401; unknown, 899.* They support M. Parchappe, and say "it is evident that celibacy predisposes to Insanity."

It must not, however, be overloked, that one reason why Celibacy and Insanity are so often connected is, that the mental peculiarities of patients, when exhibited in years previous to their admission, have prevented marriage. It should also be remembered that in some instances, unmarried persons becoming insane would be removed to an asylum and increase the official returns of lunacy, whereas, if married, they might have been cared for in their own homes. We should certainly make a considerable deduction for these circumstances, but we should still have no doubt that, given a certain number of celibates and of married men, with the same mental proclivities, there would be more likelihood of Insanity occurring in the former class; in other words celibacy constitutes a predisposing cause.

In concluding the consideration of the predisposing causes of

* Dr Earle's tables show a closer approximation between the married and single in both sexes. With regard to the influence of widowhood, he concludes that "the grief, the anxiety, the care, and the labour consequent upon the loss of a spouse, operate much more effectively among women than among men as producers of Insanity."

Insanity, we may add, for the information of the reader, that under this head, the International Congress in 1867 decided to include hereditary influence, pure consanguinity, great difference of age between parents, influence of soil, of surroundings; convulsions or emotions of the mother during gestation; epilepsy; other nervous affections; pregnancy; lactation; menstrual period; critical age; puberty; intemperance (habitual excess, dating far back); venereal excess and onanism. It will be seen that we have not ourselves adopted the same arrangement.

Exciting Causes.

The exciting or determining causes of Insanity may be divided into moral and physical. Arbitrary as this division often proves, we shall not reject it. The predisposing are mainly physical; but the exciting are to a large extent, moral. Lucas emphatically denies the propriety of regarding one predisposing cause, hereditary predisposition, as altogether physical. It is with him "only a transmission and reflection in the descendants, of *two orders* of causes, and in each order, of all the species of the causes producing Insanity with the progenitors. It is the expression, the organic incarnation, of all the originating causes of the malady in the descendants, independently of the forms which it assumes, and of the nature of the affections or commotions which have determined it in the ancestors." It is with him *neutral;* "being the representative of all causes, it is the exclusive privilege of none." It is both moral and physical.

With the object of gaining information on the causes of Insanity in general, we have analysed the returns of a large number of asylums, English, American, and Continental. The total number of cases in which the cause was ascertained, after excluding hereditary predisposition, congenital condition, and old age, amounted to 30,087. On the whole, we have found a very marked agreement between the results of the various asylums, the statistics of which we have consulted. In this analysis we have been obliged to follow the causes tabulated by the Superintendent of Asylum Reports, but there are obvious objections to several of them, such as "Affections of head and spine," "Epilepsy." Our calculations have been made upon the total number admitted.

First, we find that among physical causes the following was their order of frequency:

Intemperance.
Epilepsy.
Affections of Head and Spine.
Uterine Disorders, viz. those of { Menstruation, Pregnancy, Parturition, Lactation.
Sexual Vice.
Fever and Febrile Diseases.

Secondly, as regards moral causes, their order was as follows:

Domestic Troubles and Grief.
Religious Anxiety and Excitement.
Disappointed Affections.
Fear and Fright.
Intense Study.
Political and other Excitement (Joy, &c.).
Wounded Feelings.

Or, without reference to the division into physical and moral:—Domestic Troubles and Domestic Grief; Intemperance; Epilepsy; Affections of Head and Spine; Uterine Disorders; Religious Anxiety and Excitement; Disappointed Affections; Sexual Vice; Fever and Febrile Diseases; Fear and Fright; Intense Study; Political and other Excitement; Wounded Feelings.

Recently the Commissioners in Lunacy have been able, by constructing a schedule of their own and obtaining returns from the superintendents of asylums, to present results in a better arranged form. They comprise 14,152 admissions. We observe that in their schedule, given in the Report of 1877, they enumerate "Epilepsy" and "other forms of brain disease;" but that, in a more recent list of causes which has been issued, these are omitted. Percentages are calculated upon the total number of admissions, not on cases in which the cause was known. From the classification of causes being different in the above table, and that prepared by the Commissioners, we are unable to compare them in all particulars, but it is satisfactory to find that they are in accord in regard to the most prevalent physical and the most prevalent moral cause of Insanity. In both, "Intemperance" (14·9 per cent.) is at the head in the former, and "Domestic Troubles and Grief" (6·3) in the latter. That

independent inquiries should lead to the same result shows that, amid much that is uncertain in the Statistics of Insanity, there is a certain amount of reliability and uniformity. Next in order, in the list of moral causes, are Mental Anxiety: Worry (5·3); Adverse Circumstances (4·8); Religious Excitement (3·0); Love Affairs (1·7); Fright and Nervous Shock (1·3). On the physical side are, Hereditary, with other ascertained cause in combination (9·9); other bodily disorders, including old age (7·8); Epilepsy (6·5); Hereditary only (5·7); Congenital (3·7); Puerperal (3·3); other forms of brain disease, not General Paralysis (3·2); Accident or Injury (2·8); Puberty and Change of Life (2·4); Overwork (2·0); Congenital, with other causes, (1·7); Self-Abuse (1·5); Uterine Disorders (1·4); Sunstroke (1·1); Fevers (1·0).

The heads of the new Schedule are as follows:

Moral Causes.

Domestic Trouble (including loss of relatives and friends).
Adverse Circumstances (including business anxieties and pecuniary difficulties).
Mental Anxiety and "Worry" and Overwork.
Religious Excitement.
Love affairs (including Seduction).
Fright and Nervous Shock.

Physical Causes.

Intemperance, in drink.
" sexual.
Venereal Disease.
Self-abuse (Sexual).
Over-exertion.
Sunstroke.
Accident or Injury.
Pregnancy.
Parturition and the Puerperal State.
Lactation.
Uterine and Ovarian Disorders.
Puberty.
Change of Life.
Fevers.
Privation and Starvation.
Old Age.
Other Bodily Diseases or Disorders.

Previous Attacks.

Hereditary Influence ascertained.
Congenital Defect ascertained.

Other ascertained causes.

The last 'Rapport sur le Service des Aliénés du Département de la Seine' (issued 1877) gives the principal causes in the total admissions (2068), viz.—

Physical.—Intemperance 577 (27·4 per cent.); Age 203; Affections of the Nervous System 115; Congenital 95; Other Diseases 71; Female Diseases 64; Epilepsy 59; Privation and Want 26. *Moral.*—Domestic Grief 72 (3·4); Fright and

Nervous Shock 36; Religious Excitement 20; Adverse Circumstances 13; Loss of Relatives or Friends 12; Jealousy 10; Political Events 8; Love Affairs 7. In 132 instances the father or mother of the patient was ascertained to have been insane.

Of the main exciting causes of Insanity, we must speak more in detail. With regard to *Intemperance*, Lord Shaftesbury, in his evidence before the Select Committee on Lunatics, in 1859, expresses his opinion that 50 per cent. of the cases admitted into English asylums are due to drink, and cites Esquirol in support of this statement. It is more than doubtful, however, whether Esquirol possessed any statistics which would have borne him out in this assertion; for although intemperance stands first in the above list, we do not find that, when calculated upon the admissions, it exceeds, in most asylums, 12 per cent. Calculated upon the cases in which the cause was ascertained, the percentage is, of course, higher. Thus, from the Report of the Commissioners in Lunacy in 1844, it appears that of 9867 cases in which the cause was ascertained, 1792, or upwards of 18 per cent., were due to this cause. During 30 years the ratio per cent., according to Skae, was $11\frac{1}{2}$ (males 16) at Morningside; while the figure reaches 19 per cent. in the Report of the Scotch Commissioners, 1871. It will readily be admitted, however, that these figures fall far short of presenting a true picture of the complex influence of intemperance in inducing insanity, directly *or indirectly*. Those superintendents of asylums who estimate intemperance at 25 per cent. or higher, no doubt include those cases in which drink has not only been the proximate, but also the remote cause of the disorder. This estimate is greatly increased when we take into account the large number of cases in which the intemperance of parents causes the Insanity or Idiocy of their offspring. Again, calculated on males only, the proportion of admissions from drink would be much higher. Thus, at the York Lunatic Asylum Dr Needham's statistics show a proportion of 16 per cent. for both sexes on the total number admitted (1029), and for men 22 per cent. Dr Clouston gives for the cases admitted from Cumberland and Westmoreland, 16·15 for both sexes, 22·50 for men. Again, Dr Kirkbride, in his Report for 1871, says that, of 3599 patients admitted into the establishment in 31 years, about whom he was able to obtain information, 13·42 per cent. (22·52 males, 2·39 females) had become insane through drink. Lee (1868) states that of 14,941 patients treated in 16 American

asylums, 11·97 per cent. were due to this cause. Earle's statistics for the Northampton Asylum show a proportion of 12 per cent. on the total number admitted of both sexes, and for men 20 per cent.

Tobacco* and opium must be added to alcohol as causing Insanity, though to a much less extent; also lead. See case in 'Journal of Mental Science,' July, 1872. Insanity is not very unfrequently referred, in our Asylum Reports, to the use of mercury.

We may refer a little more in detail to the effects of different kinds of intoxicating liquors.

It is well known that *absinthe* and the substitution of strong for light wines have been most injurious in France. M. Morel assured the writer, a few years ago, that in those districts where the ordinary wine of the country is the only form of intoxicating drink in use, few persons become insane from intemperance, but that directly you come to the towns, you witness the large amount of Insanity caused by spirits, and in Paris, Rouen, &c., by absinthe. Further, in many country districts strong liquors are being increasingly consumed, and with a proportionate amount of Alcoholic Insanity. Dr Decaisne has written an article in the 'Gazette des Hôpitaux' (1869) on the effects of absinthe upon the nervous system, in which he repeats what he had fifteen years before maintained, that absinthe in the same dose and strength as alcohol, or eau de vie, has the most disastrous influence on the economy, and produces intoxication much more rapidly. Dr Magnan has also written a memoir on the 'Experimental and Clinical Investigation of Alcoholism,' of which an abstract will be found in the 'Journal of Mental Science,' July, 1872, in which he enters in detail upon the peculiarly baneful influence of absinthe.

The question of the influence of various forms of intoxicating drinks has been most carefully investigated by M. Lunier, and the results of his inquiries are published in the 'Annales Médico-psychologiques' for 1872. His main conclusions may be thus stated:

1. Spirituous liquors, and especially those manufactured with spirit derived from beetroot and grain, tend in all parts of France to take the place of the natural drinks, wine and cider.

2. While the consumption of alcohol has nearly doubled

* See "L'Absinthe et Tabac," par M. Jolly ('Bulletins de l'Académie de Médecine de Paris,' 1871).

between 1849 and 1869, the cases of Insanity from intemperance have risen 59 per cent. with men, and 52 per cent. with women.

The progressive increase in the consumption per head of alcohol (strength 90° to 92°) was as follows:

1831	1·09 lit.*	1861	2·23 lit.
1841	1·49 „	1866	2·53 „
1851	1·74 „	1869	2·54 „

The proportion of cases of Insanity caused by drink, rose in like manner:

	Men.	Women.	Both sexes.
1838	... .	... .	7·64
1841	... .	... .	7·83
1856–8.....	14·30	3·09	8·89
1864	14·78	3·37	10·22
1867–9.....	22·82	4·71	14·78

3. In those departments which do not cultivate either wine or cider, but produce alcohol, and where the annual consumption has increased, in twenty years, from 3·46 lit. to 5·88 lit. per head, Insanity from this cause has risen from 9·72 to 22·31 per cent. with men, and from 2·77 to 4·14 with women.

4. In those which produce neither wine nor alcohol, but cultivate cider, and where the consumption of alcohol, which was only 2·43 lit. in 1847, is now 4·08 lit., the proportion of cases of Alcoholic Insanity attains 28·53 per cent. for men, and 9·18 for women.

M. Lunier says that the alcohol from cider is more pernicious than that from beetroot or grain, and that in the Department of Calvados, where the largest proportion of cases of Alcoholic Insanity exists (56 per cent. men, 10 per cent. women), a great deal of alcohol from cider is produced and consumed. The relative frequency of Alcoholic Insanity among women, who previously were almost exempt from it, has increased fearfully. In Brittany and Normandy, he says, excess in drinking alcohol has become nearly as common with women as men.

5. In the departments which cultivate neither wine nor cider nor alcohol, and where the consumption has increased from 1·49 lit. to 2·69 lit., Insanity from alcohol has risen from 7·37 to 10·25 per cent.

6. In those departments which both cultivate wine and manufacture spirits of wine, but where the consumption, which was

* A litre equals 34¼ fluid ounces (Eng.).

0·53 lit. in 1849 is now not more than 1 lit. per head, Alcoholic Insanity has only increased from 7·63 to 11·40, and is comparatively rare among women.

In the Somme, where but little alcohol is drunk, and scarcely so much in 1869 as in 1849, the number of cases of Insanity from drink has remained almost stationary among the men and quite so among the women.

7. In some departments, where the people drink relatively much *white* wine very slightly alcoholised and little spirit, as in the Vendée, Loire-Inférieure, Côte d'Or, Alcoholic Insanity appears to be as common as in those in which they mainly consume alcohol; but in the former, contrary to what happens in the others, the cases of Insanity from drink are relatively very rare among females.

M. Lunier attributes the fact that these white wines are almost as pernicious as spirit manufactured from beetroot or grain, to their containing but little tannin. He says that everything induces him to conclude that other natural wines, particularly the red wines which have not been *sur-alcoolisés*, rarely determine chronic alcoholism.

8. The increase in the number of suicides has everywhere in France followed the increased consumption of alcohol.

9. As regards the relative effects of *beer* and spirit, it is noteworthy that in the north, where the consumption per head of alcohol has nearly doubled in twenty years (1849 to 1869), the cases of Insanity from alcohol have quadrupled among the men, while among the women, who drink a great deal of beer and little alcohol, the cases of Insanity from drink remain the same.

It appears from the foregoing that the pernicious influence of intoxicating drinks as regards Insanity is in the following order: —alcohol from cider, alcohol from beetroot and grain, cider, wine, beer, the white wines referred to being much more injurious than red.

We have already spoken of the influence exerted by drunken parents upon their offspring. M. Lunier estimates at 50 per cent. at least, in the great cities, the idiots and imbeciles whose parents were notoriously drunkards. In the majority of cases "children born of parents when drunk or who were constitutionally drunkards" are, he considers, weak in some way or other.

Of the remarkable influence of alcohol in Paris in inducing Insanity during the late war, M. Lunier gives abundant proof in

the article referred to. During May, 1871, 55 per cent. of the admissions were due to this cause.

We calculate that *Epilepsy* is the cause* in about 6 per cent. of the patients admitted into asylums. It is scarcely necessary to observe that it must never be regarded as a cause of Insanity, except when it manifestly precedes the mental affection. True epilepsy, however, is very rarely secondary. In the York Asylum tables, of 1029 admissions (causes ascertained in 864 cases) 23 were referred to epilepsy. In the Northampton (U.S.) tables, of 1074 admissions (causes ascertained in 687 cases) 62 were ascribed to this cause.

Affections of the Head and Spine include their injury from external causes, apoplexy and paralysis, sunstroke and disease of the brain. In any large asylum the number admitted in the course of a single year, in consequence of apoplectic and paralytic attacks, is considerable. Thus in 1852, of 1353 admissions into the Bicêtre and Salpêtrière we observe that 27 were attributed to apoplexy and 31 to paralysis, being a proportion for both together of about 4 per cent. In the same year 11 were admitted insane from external injuries, such as blows on the head, &c. Our total calculation under "Affections of the Head and Spine" gives a proportion of 6 per cent. Earle's recent tables show that of 1074 admissions at the Northampton Lunatic Hospital, 10 were due to injury to the head, 4 to sunstroke and 14 to apoplexy and paralysis. In the York Asylum tables, of 1029 admissions (causes ascertained in 864 cases) 7 are referred to "head-stroke," 25 to "injury to head."

The relation of *Uterine Disorder* to Insanity is frequently very difficult to determine. Although, however, often only an early symptom of the disease when set down as a cause, there remain a large number of cases in which suppressed or irregular menstruation is the true cause of the attack. The effect of the natural cessation of the catamenia at the critical age, proves the great importance of the suspension of the menstrual discharge, as a cause. as well as a symptom of Insanity. Pregnancy, child-bearing, and lactation, in their relation to attacks of mental

* It must be understood that we speak in this section of causes in accordance with the usual custom of regarding epilepsy, &c., merely as such, and not as parts of the disease or disorder of the nervous system, of which insane manifestations are additional symptoms in the progress of the malady. We shall regard them in the latter light when we approach the forms of mental disorder from this, the somato-ætiological point of view. The two are, however, so closely connected, that this section should be read in connection with the subsequent chapter referred to.

disorder, will be considered in a future chapter. The proportion of admissions from uterine disorders appears to be about 5, or taking female admissions only, 10 per cent. Among asylums for the opulent classes exclusively, the ascertained proportion would be higher; the real proportion higher still, among both poor and rich.

To estimate with anything like accuracy the relation which *Sexual Vice* bears to Insanity, requires considerable discrimination. In Dr Earle's recent tables of the Northampton State Lunatic Hospital, it appears that out of the male admissions (572) 19 were attributed to masturbation. In those of the York Asylum prepared by Dr Needham, out of 603 male admissions this cause is set down at 15. Reliable facts are of course most difficult to obtain, and such figures reveal little of the real truth—the extensive mental mischief done—of which there can be no doubt whatever.

In regard to other diseases than those already mentioned, one of the most important is *Fever* and febrile disorders, which appear to cause 2 or 3 per cent. of admissions. We believe it would be found, that Insanity more frequently follows continued fever, accompanied by the mulberry- than the rose-coloured rash; and also that it is less curable when it succeeds the former—the "typhus" of Dr Jenner. The constitutionally irritable sometimes become unbearably so. In children it is not uncommon to witness illusions and extreme nervousness last for some time after the attack of fever, but they commonly pass away when the system is recruited. Sydenham observed Mania of a peculiar form "occasionally follow long agues, especially if they be quartan. From the exhibition of strong evacuants, it degenerates into fatuity." ('Works,' vol. i, p. 93.)

Although of secondary importance to fever, there are various diseases which in this place deserve enumeration. Such are cutaneous affections, including erysipelas, when repelled, otitis, intestinal worms, gout, rheumatism, disease of the heart, asthma, syphilis. "Ill health" is a general term frequently assigned as the cause of Insanity in statistical tables, but is so vague as to be worthless, and cannot be distinguished from the signs of the oncoming mental affection itself.

Of moral causes, *Domestic Troubles and Grief* are unquestionably the most important. Drunkenness, either of the patient or of some member of the family, is, in a large number of instances, the real cause of domestic trouble and therefore

remotely of the attack of Insanity. *Domestic Troubles* are of various kinds—ill-treatment and desertion, also reverses of fortune and poverty. *Domestic Grief* implies that arising from illness or death of a relative. Of the former, the admissions average 9 per cent., 3 of which appear to be more especially connected with pecuniary difficulties; about 5 per cent. are assigned to domestic grief—making their combined influence rank at 14 per cent. Among women only, the rate is much higher. At the York Asylum, out of 1029 admissions, 24 were due to business anxiety, 103 to domestic affliction, 104 to pecuniary reverses.

Religious Anxiety and Excitement.—In the analysis of our collected cases, we find it assigned in 3 per cent. of the total admissions. Doubtless, in many instances it was in reality the initial *symptom* of the disorder. Still we cannot for a moment doubt that the form in which religion is but too frequently presented is a serious cause of Insanity.

Dr. Earle gives 17 cases out of the total numbers already mentioned, as due to "religious excitement," and 6 to "Spiritualism; Dr Needham, 26 out of 1029 admissions, as due to the former.

Disappointed Affections were the assigned cause in about the above proportion, being nearly 3 per cent. In some asylums, the tables of causes exhibit "disappointed affections" much higher in the scale than religious excitement.

Of the effects of *Fear and Fright,* several striking examples will be given in the description of the various forms of mental disorder. Of admissions, 2 to 3 per cent. are referred to this cause. At the York Asylum "sudden fright" is enumerated in 13 cases out of 1029 admissions.

The influence of *Intense Study* is with difficulty separated from the habits or the feelings with which it is often associated. In asylums for the higher classes, the number of male admissions from this cause is by no means inconsiderable. In some of the American asylums it figures high. On this subject, see an important pamphlet by Dr Jarvis entitled 'Relation of Education to Insanity,' Washington, 1872. Out of 1741 cases the causes of which are given, admitted into sixteen American asylums, 205 were attributed to excess of study. As an indirect agent he considers it very potent. Unquestionably, in England, at the present day, brain forcing and the crowding of an immense number of subjects into one examination are doing

most serious mischief; and the strange thing is that those who foster this evil are frequently medical men, and ought, therefore, to know better.

Political Excitement and War might be expected to exert a great influence on the admission of the insane into asylums. M. Belhomme received into his private asylum ten patients labouring under Mania in consequence of the Revolution of February, 1848.* M. Legrand du Saulle admits the influence of the Revolution, but says any other cause acting on the predisposed would have produced the same result. That political commotions mainly affect those who are predisposed to Insanity is true, but this would apply to all other exciting causes, the importance of which we do not, on that account, ignore. In ordinary times, in England at least, the number of cases admitted from political excitement constitutes a mere trifle.

An opportunity for testing this influence occurred during the Franco-Prussian war. M. Morel insists on the great frequency of Panophobia from the fear of the Prussian invasion and the agonies of the war. M. Bourdin considers he has failed to prove it. Would the children yet unborn suffer? Both these physicians conclude with Pinel that under such circumstances they certainly do—that they are more irritable, more disposed to become melancholy, imbecile or epileptic. This remark of course applies as well to civil war. The large number of suicides which occurred during the reign of the Commune seems easily accounted for, without the increased intemperance to which Morel attributes it. M. Baillarger thinks that probably more will suffer after than during the Franco-Prussian war, in accordance with Esquirol's experience as regards the Reign of Terror. M. Legrand du Saulle states that he does not know that after the horrible events which recently occurred in Paris there was a serious number of cases of Acute Insanity certainly referable to them. Morel relates the following :—Two brothers, one of whom witnessed the burning of his shop, fell suddenly into a state of stupor, to which a violent maniacal attack succeeded. The other was witness in a trial during which the people madly invaded the sanctuary of justice, and was struck

* Taking four years, 1847, 1848, 1849, 1850, there were the fewest admissions into the French asylums in 1848; but as explained by the experience of the Franco-Prussian war, it does not follow that there were fewer occurring cases of Insanity, still less that political events did not cause Insanity, although in some instances they might avert it.

in his turn with such alarm, that the melancholy oppression which seized him finally terminated in the most deplorable manner. An artillery man, exposed during the days of June to the most terrible fire, and remaining alone on the spot which he guarded, fell immediately into a profound stupor and was long confined in an asylum in consequence of furious mania which succeeded. Morel also mentions that the burning of villages caused, in many instances, "crises of despair to which succeeded a state of Melancholia with tendency to suicide."

Now what appears at first sight a remarkable thing is this :— That during the summer of 1871, the total number of insane in Paris was considerably less than usual. Allowing for the great mortality arising out of the cold winter and the war as well as the executions, M. Legrand du Saulle arrives at the conclusion in an article in the 'Annales Médico-psychologiques,' "De l'état mental des habitants de Paris pendant les événements de 1870-71," that the late war is another proof that "the gravest political events, although they may give, at the moment, a colour to the particular form of Insanity, do not produce, as is commonly supposed, an increase in the number of lunatics." It was observed that the excitement of the war, the rousing influence it exerted on many minds, was to some extent a set-off against its baneful effects on the mind. Lunier noticed that many neuropaths forgot their sufferings in the fearful suspense of the siege, and patients under treatment, the subjects of delusions and hallucinations, got rid of them, for a time at least. In his own experience, those who became mad were not, as Baillarger holds, the subjects of hereditary taint; on the contrary, with such, he thinks the war acted as a powerful diversion to avert the outbreaks of Insanity. As a fact fewer insane persons were admitted into the French asylums during the war. The number of admissions, which from July 1st, 1869, to July 1st, 1870, was 11,655, was in the succeeding year (*i.e.* during the war of the Commune) only 10,243, a falling off of 1412. It is, however, no less true that, during the same year, between fourteen and fifteen hundred persons became insane from the war. Statistics were obtained from various departments divided according to the occupation of the country by the enemy, and it was found that in the district only occupied for a very short time and where the struggle had been the most intense, the events of the war proved most disastrous in this respect.

In Paris, the number ascertained to have become insane during

the siege and the Commune in the year 1870-71, exclusive of those not sent to asylums, amounted to 290 men and 121 women.

In almost all cases, the form of Insanity assumed an acute type, and in the great majority of cases terminated rapidly, either in death or much more frequently in recovery. Hence on January 1st, 1872, there remained comparatively few in the asylums, whose Insanity had been caused by the war.*

Among the causes of apparent diminution of attacks of Insanity, as shown by the admissions, it may be stated that many went to hospitals instead of asylums, and many remained with their friends; and of course a large number of persons were killed who would in the ordinary course of events have become insane. Observations were made by Dr Nasse on the influence of the war between Austria and Germany in 1866, and he concluded that no injurious results occurred as regards Insanity. He agrees with Jarvis as opposed to M. Brierre de Boismont, that "neither war nor political commotion sensibly augments the cases of Insanity." ('Zeitschrift für Psychiatrie,' 1870, and 'Annales,' 1870.)

Dr Curwen, the superintendent of the Harrisburg Asylum (Penn.), states that "the breaking out of the war of 1861 was attended by a great and sudden increase for a few months of cases of mental disorder. It may also be noted as a remarkable fact, that while a great increase was noticeable at the commencement of the war, yet after the attention of the country was fully engrossed in its prosecution, and in all the cares and duties consequent upon its continuance, mental disorders were less frequent than for several years previous, arising unquestionably from the fact, that the public mind, as well as the minds of individuals, was fully occupied with the duties and obligations which the successful prosecution required and entailed.

Excitement from various other causes acts prejudicially upon the mind. Out of the 1741 cases referred to at p. 99, 61 are attributed to excitement. Sudden joy, contrary to an opinion sometimes expressed, does not produce nearly so much Insanity as grief; its influence, however, in deranging the mental powers is occasionally observed, and was illustrated by Gregory, in his lectures, by the history of a family, three members of which

* See 'Les Hommes et les Actes de l'Insurrection de Paris,' 1872, J. V. Laborde. 'Les Commotions Politiques dans leurs Rapports avec l'Aliénation,' Dr. Collineau, Paris, 1873. 'Les Hommes de la Commune,' M. Jules Clerc, 1871. 'The Medico-Chirurgical Rev.,' July, 1874, Art. "The Psychology of Communism."

became insane in consequence of an unexpected accession of fortune. We believe these cases have been published, but for the following particulars the writer is indebted to the notes of a gentleman who was present at the Professor's lecture.

An elderly woman and two daughters lived together as companions in poverty for several years. The mother was rigidly penurious; the eldest daughter was of a gay disposition, and thwarted her mother's wishes by spending money whenever she could obtain it; her sister, on the contrary, was grave, and had good abilities. A distant relative died, and they became rich beyond their utmost desire. On being informed, the mother became deranged, as also the eldest daughter. The younger daughter wrote to Dr. Gregory describing their condition, but in a short time she also became insane, probably from grief no less than from joy. In a few days the mother and the youngest daughter died. The eldest, upon whom the whole of the property now devolved, continued insane for some time, then recovered, and subsequently married. Her husband lost all her money, and left her reduced as low as, if not lower than, she was before the accession of riches which caused the overthrow of her reason.

Might not a recurrence of the attack have been expected? On the contrary, however, she bore her losses patiently, and she remained quite healthy in mind. An interesting example of the effect of excitement in causing Insanity is given by Dr Walker, in his 'Report of the Boston Asylum (U. S.)' for 1851:—An Irish boy, thirteen years of age, after arriving at that city in an emigrant vessel, became raving mad in two days, apparently from no other cause than the strangeness and novelty of what he saw. Delasiauve mentions the case of a lady who was very actively engaged in obtaining judicial separation from her husband and manifested no signs of Insanity, but directly she gained her cause she became deranged. At the York asylum, out of 1029 admissions, while 24 were ascribed to "business anxiety," *only one* was referred to "business success."

Wounded Feelings comprise "wounded self-love or "respect," "being reproved," "injured reputation," and similar circumstances mentioned in Asylum Reports as inducing the attack for which the patient was admitted. On the Continent, the returns under this head are much more frequent than in England, where they appear to cause but a fraction per cent. of the admissions.

Relative influence of moral and physical causes (whether predisposing or exciting.)—Pinel and Esquirol arrived at the conclusion that moral causes are much more productive of Insanity than are physical. M. Brierre de Boismont is a warm supporter of the same view, and advocates it with his usual

ability. Marcé holds the same opinion. Guislain estimates, that of 100 admissions, 66 arise from the former, approaching very nearly the result arrived at by Dr Parchappe, viz. 67·1 per cent. Dr Hood, in his 'Statistics of Bethelem Hospital,' states that the moral causes of the attacks of those admitted, greatly exceed those of a physical nature.

At the Retreat, the proportions have been reversed, the physical being in excess of the moral when the predisposing and exciting causes, exclusive of hereditary predisposition, are added together. For 100 moral there were 165 physical causes. As these predisposing causes of Insanity are physical, the results we arrive at, as to the relative influence of moral and physical causes, will obviously be affected by their addition, or otherwise, to our figures. Taking our own collected cases, we find that, having regard exclusively to the exciting causes, arranged in accordance with the distinction already adopted, of 30,087 cases in which the exciting cause was ascertained, 16,986 were due to physical and 13,101 to moral causes, being at the rate of 129 physical for 100 moral causes. Dr Earle arrived at the same relative conclusion:—"Thus it appears that of 1074 persons, there were 687 for whose mental disorder causes were assigned. Of these, 539 are agents whose action is primarily upon the body, and 148 are such as first act upon the mind. The number of physical causes, therefore, is about three and a half times as large as that of the mental or moral causes." (He includes in physical causes, heredity, epilepsy, paralysis, ill-health, &c., old age; and congenital states). The statistics of the York Asylum teach, says Dr Needham, "that in the causation of the mental disease, moral influences have operated in one third, and physical causes in two thirds of the cases admitted" (includes in physical causes, the same as Dr Earle). How are we to account for results so different from those arrived at by Pinel, Esquirol, and others? The circumstance arises in part from the inherent difficulty of this subject, and partly—as in everything else about which men differ—from the different definition of the terms adopted. No two writers are agreed in what they include under moral and physical respectively. In illustration of the former, it is only necessary to mention the extremely doubtful nature of vicious indulgence in this point of view. It is of mixed character in most instances, and yet we generally refer it solely to the division of physical causes. In a less degree, a patient who has become insane after leading an intemperate

life, may have become so partly in consequence of domestic troubles. Dr Parchappe might enter the case under the latter head, by which it would increase his division of moral causes; another might enter it under "intemperance," and so add to the list of physical causes. It is, we suspect, mainly in this way, that although we have arranged Dr Parchappe's table in accordance with our own classification of exciting causes in order to compare them, the moral still preponderate over the physical causes. It is quite possible (although, without knowing each case, impossible to decide) that his mode of tracing and appropriating the cause has been the correct one. It is impossible to avoid altogether this element of uncertainty. We also believe that among the French, moral agents do exert a greater influence than with either the English or Americans. "Amour-propre blessé," and other items under "Wounded Feelings," figure to a much greater extent in their reports of causes than in ours. That the proportion between the two classes may vary in different parts of Great Britain, is proved by one of the Reports of the Royal Edinburgh Asylum, in which Dr Clouston states, "In the mining and manufacturing counties, Durham, Glamorgan, and Stafford, the physical causes are four times as numerous as with us. In the agricultural counties, Wilts, Somerset, &c., the physical causes stand to the mental as three to one; in the town population of Newcastle, Liverpool, Birmingham, and Bristol, as two to one." In all the asylums in the above-mentioned places only paupers are received; the Edinburgh asylum is mixed.

As an example of the second source of discrepancy, we may refer to the different ways in which epilepsy is regarded. Some, like Earle, add it, as in our list, to the column of physical causes; others omit it altogether, in consequence of regarding it as simply one stage of the disease. If we deduct from our own cases those in which epilepsy was the alleged cause, the physical causes would be materially reduced, and still further by the exclusion of apoplexy and ordinary paralysis, all of which are omitted by Dr Parchappe. Again, it is certain that one explanation of the apparent discrepancy between statistical writers on Insanity, is to be found in some adding constitutional feebleness of mind to the list of (predisposing) *causes;* while others, regarding it as a part of the disease, take no account of it. This will partly explain the different balance of figures given by Dr Parchappe and Dr Thurnam. When in regard to the Retreat

we only take the *exciting* causes (in which this element of discrepancy does not appear), we find the moral exceeding the physical causes, although not to the same extent as with the former writer.

On the whole then, while the statistics we have collected together, indicate a preponderance of physical over moral causes, we are not prepared to say that they are sufficient, without further evidence, to negative the conclusion to which we think *à priori* considerations would conduct us, namely, the superior force, in civilised countries, of moral agencies in the generation of mental disease. A larger number of cases, and especially the means of tracing each to its real cause, would probably materially modify these figures. We now refer solely to the *exciting* causes of Insanity, for we have no doubt that if hereditary predisposition (when the only cause), congenital feebleness of mind, old age, and some other predisposing circumstances, are added, the catalogue of physical agents will actually as well as apparently exceed those of a moral character. One thing is very clear, that before men discuss this question, they must agree upon what are physical and what are moral causes.

Dr Major, of the West Riding Asylum, has proposed to prepare the cause-tables in Asylum Reports on a different principle from that which has hitherto been adopted. Instead of attempting to determine, out of the several causes to which an attack of Insanity is usually assigned, which is the most important and rejecting the others, he simply states the number of cases in which certain causes *contributed to produce* the attack.* In a large county asylum, this course is probably the best mode of escape from the difficulty arising out of the impossibility of obtaining accurate information. In small asylums, however, where the past history of the patients can be more easily traced, the old plan is more likely to lead to definite results. In Dr Thurnam's hands it elicited valuable information. The writer is disposed to believe that, as in most cases of insanity, the attack has been induced by a combination of causes, it would be best to construct a table recognising and representing this combination. Thus, of 50 cases, 10 might be due to heredity and intemperance; 12 to temperament and pecuniary losses; 8 to previous attacks and domestic trouble, and so forth. The combined action of several causes would thus not be lost sight

* See 'Journal of Psychological Medicine,' 1877, and the Wakefield Asylum Reports, 1877.

of, while the number of cases in which certain causes contributed to produce attacks of insanity could be ascertained by adding up the causes in the table, singly. Of course in this, as in all other plans, the value of the result depends upon the correctness of the facts.

To a certain extent Dr Major has himself adopted this principle. Thus, he gives the following interesting analysis of cases admitted during the year 1877, due to intemperance solely or in combination with other causes:

	Males.	Females.	Total.	Percentage on admissions.
Alcoholic excess (singly) . . .	30	5	35	7·5
Alcoholic excess with hereditary tendency to insanity	14	5	19	4·0
Alcoholic excess with other *physical* exciting causes	9	4	13	2·7
Alcoholic excess combined with *moral* exciting causes	13	1	14	3·0
	66	15	81	17·2

In concluding the observations on the exciting causes of Insanity we may state that under this head the International Congress of 1867 include—

I. Physical causes.—Artificial deformities of cranium; convulsions of infancy and dentition; cerebral congestion (primary, not that which arises in the course of certain forms of Insanity); organic affections of the brain; senility; pellagra; anæmia; constitutional syphilis; intermittent fever; typhoid fever; eruptive fevers; acute rheumatism; gout and chronic rheumatism; organic affections of the heart; pulmonary phthisis; intestinal worms; other acute diseases; other chronic diseases; suppression of hæmorrhoidal flux; menstrual disorders; metastasis; alcoholic drinks; abuse of tobacco; other vegetable poisons; mineral poisons (lead, mercury, copper, &c.); insolation; intense heat; intense cold; blows and falls upon the head; other traumatic causes.

II. Moral causes.—Appertain to religion; education; love, (love thwarted, jealousy); family affections; fluctuations of fortune; domestic troubles; pride; disappointed ambition; fright; irritation; anger; wounded modesty; political events; nostalgia; ennui; misanthropy; sudden joy; simple imprisonment; solitary confinement.

The Congress only attached a secondary importance to the distinction between predisposing and exciting; but thought some

division, however imperfect, is better than none at all. (See 'Journal of Mental Science,' Jan., 1870, p. 638.)

III. Mixed causes.—Excess of intellectual work; prolonged vigils; evil habits of libertinism; onanism (sometimes simply predisposing); disorders of the reproductive system; destitution and want; bad treatment; sudden change from a life of activity to idleness, and *vice versâ*; loss of one or more of the senses.

SECTION IV.—Proportion of the Insane to the Population.

On no subject has there been more absurd and illogical reasoning, or more hasty generalization, than on the proportion of the insane to the population, whether in regard to various countries or in regard to the same country at different periods of its history.

The most obvious essentials for making correct comparisons are constantly disregarded, notwithstanding which, highly important inferences are drawn with the utmost complacency, and apparently in entire ignorance of the fallacy which underlies such loose and worthless calculations. Even up to the present time, when the subject is discussed, we are often presented with merely a list of the numbers of lunatics in various countries, the conclusion being drawn that such numbers represent correctly the liability to Insanity in these countries,—the difference sometimes ranging between one in a thousand and one in 30,000! Generally, the only basis for such calculations is the number of patients in lunatic asylums; yet it must be obvious that, in consequence of the very different provision made for the insane in different countries, such a basis as this is utterly fallacious. But there are other circumstances which vary most materially among different peoples, and which must be taken into account before we can arrive at anything like a satisfactory result; yet these have again and again been entirely overlooked. For example—the mortality of lunatics varies in the same country at different periods, and is greater in some countries than in others. Now, let the reader suppose that there were a law in Scotland that every lunatic should be put to death when all means of cure had been resorted to for the space of five years, and suppose that no such law existed in England; it must be evident that a return of the number of lunatics in the two countries would exhibit a far larger proportion in England than in Scotland; while, at the same time, it is not less evident that

precisely the same, or even a greater number, might become insane in the latter country than in the former. Although an extreme case by way of illustration is here supposed, the same error is in degree committed whenever the relative liability to Insanity of two nations is endeavoured to be ascertained, without an attempt being also made to ascertain the relative mortality of their lunatics. In other words, unless we can ensure an entire similarity in the various circumstances of two nations, or of the same nation at two different periods, we must obtain statistical returns—not of the number of lunatics existing at any given period, but—of the number of cases occurring in a nation, as compared with the population. "The tendency to Insanity in a class is expressed (as Dr Farr observes) by the proportion that *become* insane."

In our own country there are two reasons why the proportion of the insane to the population appears to be greater than was formerly the case. The first is, that the disease is recognised as such to a far greater extent than formerly; and the second is, that we know and make provision for, to a much greater extent than heretofore, the number of the insane throughout the country. In the short period of nineteen years, the estimated proportion of the insane in England rose from 1 in 7300 to 1 in 769; a difference which led to the belief in a frightful increase of Insanity, but which by no means warranted such a conclusion. The knowledge of an evil, and the existence of that evil, are two widely different things. Insanity may or may not have increased; but our increased knowledge of its extent is no proof that it has. Again, it is obvious that, should there be a larger number relieved by treatment and discharged from asylums for the insane, there will be a larger number of recurring cases.

It follows, therefore, that if in the estimate of those who become insane, these recurring cases are included, the simple circumstance of curing a greater number of patients will be the very means of making it appear that a greater number of persons are attacked by Insanity,—a greater number than would appear to be the case under more unfavorable circumstances.

When the first edition of this work was published, the number of insane and idiotic in England and Wales was stated to be 33,641 (January 1st, 1857) or 1 in 577 of the total population (males 1 in 616, females 1 in 543).

The total number registered, according to the last Report of the Commissioners in Lunacy, on the 1st of January, 1877,

amounted to 66,888, or 1 in 365 (males 1 in 392, females 1 in 342), being an increase of 33,247. In these figures, however, it must be remembered that no account whatever is taken of the number of insane persons not officially reported to the Lunacy Commissioners. This number cannot, of course, easily be guessed at. In former editions we said that, were it fully known, it would, when added to the number already ascertained, exhibit a proportion of at least one insane or idiotic person to every 300 of the population. Subsequent statistics, without including this unknown element, having raised the ascertained proportion from 1 in 569 to 1 in 365, we are confirmed in the opinion then expressed.*

They were distributed as follows :†

* The Census of 1871 reported more insane and idiotic than those known to the Commissioners at that period by upwards of 12,000, thus increasing the ratio to the population to 1 in 329.

† The Report of 1878 not having appeared when these sheets passed through the press, the total numbers for Jan. 1, 1878, will be given in the Appendix.

TABLE *showing the total number of Insane and Idiotic Persons in England and Wales registered on Jan.* 1, 1877.

DISTRIBUTION.	PRIVATE.			PAUPER.			TOTAL.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
In County and Borough Asylums	196	242	438	16,066	19,019	35,085	16,262	19,261	35,523
In Registered Hospitals	1,370	1,267	2,637	50	44	94	1,420	1,311	2,731
In Licensed Houses	1,807	1,650	3,457	471	794	1,265	2,278	2,444	4,722
In Naval and Military Hospitals and Royal India Asylum	343	15	358	—	—	—	343	15	358
In State Criminal Asylums	196	53	249	194	51	245	390	104	494
Private Single Patients	175	283	458	—	—	—	175	283	458
In Workhouses	—	—	—	6,836	9,202	16,038	6,836	9,202	16,038
Out-door Paupers	—	—	—	2,461	3,851	6,312	2,461	3,851	6,312
	4,087	3,510	7,597	26,078	32,961	59,039	30,165	36,471	66,636
Found Lunatic by Inquisition and residing in charge of their Committees elsewhere than in Asylums, Hospitals, and Licensed Houses	136†	116†	252	—	—	—	136†	116†	252
Total	4,223	3,626	7,849	26,078	32,961	59,039	30,301	36,587	66,888

† The sexes of the 252 persons found lunatic by Inquisition not being distinguished in the Lunacy Commissioners' Report, they have been estimated in the same proportion as prevailed among the private patients generally.

The increase in the population since Jan., 1857, being 5,246,196, there would now be 42,859 lunatics in England and Wales, had the proportion of Lunacy and Idiocy to the population remained stationary, but instead of this being the case, we find an excess of 23,777. The question is, Is this apparent or real? Is there more occurring as well as existing Lunacy than there was some years ago, before so much attention was paid to the subject? That a part of this increase is readily accounted for by the annually increasing facility of obtaining really accurate returns, and by the decreased mortality consequent on the care taken of the insane in our asylums, is, no doubt, true. Can it be shown that the whole is due to these or any causes other than the actual extension of the disease? We are not prepared to reply in the affirmative, although a careful examination of the subject shows how much that seems real is only apparent; due, in short, to mere accumulation. That there is reason to fear some real increase of occurring Insanity is, however, the opinion of the writer.

We cannot absolutely solve this problem by figures because, notwithstanding the published statistics, the difficulty of ascertaining correctly the *occurring* cases of Insanity at once meets us. In the Annual Report of the Commissioners, the number of admissions into asylums is given, but not into workhouses, or into the dwellings of the poor, where there are single pauper patients. Again, as idiots and imbeciles are not distinguished from the insane, or when they are so, are constantly confounded with cases of Dementia, we are unable to arrive at any just conclusion as to the number of those who become insane in a given year. We subjoin, however, such a statement of the admissions as is given in the Lunacy Report (1877) for eighteen years. It must also be remembered that, whenever a certain amount of lunacy has for long existed, for which proper accommodation has not been made, the moment a new asylum is completed, the "Admissions" in that year's Report are augmented without there being more occurring lunacy. The limit of accommodation must obviously determine the number admitted, and hence vitiate these returns as tests of the increase of Insanity.

TABLE.—*Showing the ratio (per* 1000) *of the total number of Lunatics and Idiots to the population in each year from* 1859 *to* 1877, *and the ratio per* 10,000 *of the admissions into asylums during the same period. (England and Wales.)*

Year.	Population (middle of year).	Total number of Lunatics and Idiots, Jan. 1.	Ratio to the population (1000).	Number of admissions into asylums.*	Ratio to the population (10,000).
1859 ...	19,686,701	36,762	1·87	9,310	4·73
1860 ...	19,902,713	38,058	1·91	9,512	4·78
1861 ...	20,119,314	39,647	1·97	9.329	4·64
1862 ...	20,371,013	41,129	2·02	9,078	4·46
1863 ...	20,625,855	43,118	2·09	8,914	4·32
1864 ...	20,883,889	44,795	2·14	2,473	4·54
1865 ...	21,145,151	45,950	2·17	10,424	4·93
1866 ...	21,409,684	47,648	2·23	10,051	4·69
1867 ...	21,677,525	49,086	2·26	10,631	4·90
1868 ...	21,948,713	51,000	2 32	11,213	5·11
1869 ...	22,223,299	53,177	2·39	11,194	5·04
1870 ...	22,501,316	54,713	2·43	11,620	5·16
1871 ...	22,782,812	56,755	2·49	12,573	5·52
1872 ...	23,067,835	58,640	2·54	12,176	5·28
1873 ...	23,356,414	60,296	2·58	12,773	5·47
1874 ...	23,648,609	62,027	2·62	13,229	5·59
1875 ...	23,944,459	63,793	2·66	14,317	5·98
1876 ...	24,244,010	64,916	2·68	14,386	5·93
1877 ...	24,547,309	66,636	2·71	—	—

The main causes of this increase in number may be thus enumerated, viz. (1). The act of 1845 (see p. 4 of this work), which obliged counties to erect asylums for the insane; (2). The Act of 1853 (same page), ordering quarterly returns of lunatics not in asylums; (3). The Act of 1861 (p. 5), throwing the maintenance of lunatics in asylums upon the common fund of the Union, instead of the particular parish; (4). The grant by Parliament in 1874 of four shillings per head towards the maintenance of paupers in asylums out of the Consolidated Fund (see p. 5). Again, great as the increase of lunatics officially reported as under care has been, there has been a decline in the *rate* of this increase, as is shown by the following fact. During the five years ending 1864, the average annual increase of lunatics in England and Wales (the rise of population being allowed for) was at the rate of 2·97 per cent.; during the next five years it was 2·31; in the succeeding one 1·92; and subsequently 1·17. Again, if we take two periods,

* County and borough asylums, hospitals, licensed houses, and houses for single private patients (includes re-admissions and transfers).

1859—68 and 1868—77, the increase in the total number of the insane, allowing for population, was in the former period 24·43 per cent., and in the latter period 16·83 per cent., marking a decline in the *rate* of increase of 31 per cent. Taking certified lunatics only (*i. e.* those in asylums and not in workhouses or boarded out), the increase amounted to 30·58 per cent. during the earlier period, and 18·25 during the later one, showing a decline in the *rate* of increase equivalent to 40 per cent.*

Taking the number of *admissions* (5th column) there were 59 persons admitted into asylums in 1876 to 100,000 living, against 47 in the year 1859. Re-admissions and transfers were not distinguished from first admissions until 1869. This renders the attempt to consider the returns prior to this date as corresponding to the numbers *becoming* annually insane not altogether satisfactory. Again, as most of the reasons assigned for the apparent increase of the insane in England and Wales apply only to pauper lunatics, we ought to know the increase or otherwise of the admissions of *private* patients; but unfortunately these have only been distinguished during 1875 and 1876—a period too short to be of use. In these two years there was an increase of 6·2 per cent.; in other words, for every 100 of the population who became insane in 1875, 106 became insane in 1876. It will be interesting to see whether future returns show a like rise. Recurring to the table of admissions we may state, that taking three years, 1859—61, the proportion to the population in this group of years was 4·715; during the five years 1862—66 it was 4·590; during the five years 1867—71 it was 5·150; while during the last quinquennium of which we have any returns it was 5·655, showing an increase in the admissions, although the rate of that increase, when we compare the second and third group of years with the third and fourth, shows a decided fall, namely, from 12·200 per cent. to 9·806 per cent., or a percentage of decline in the *rate* of increase of 19·623.

As regards Ireland, it appears that there were 18,730 insane and idiotic registered on January 1st, 1877, the proportion being 1 to 283 of the population.

The Report of the Scotch Lunacy Commissioners of 1877

* Statistical tables, showing the increase in admissions and in the number of Lunatics under care, will be found in the writer's 'Insanity in Ancient and Modern Life, with chapters on its Prevention,' 1878.

enables us to form some (though doubtless an imperfect) idea of the proportion of insane in Scotland. The number of ascertained lunatics on January 1st, 1877, was 8862, the proportion to the population being 1 to 411. Taking the United Kingdom, it appears that there are about 96,480 persons ascertained to be under care as either Insane or Idiotic.

In regard to France, where there has occurred the same apparent increase of Insanity as in England, and where the proportion of insane or idiotic to the population has been estimated at 1 to (about) 400, M. Lunier, Inspector-General of the "Service des Aliénés," presented a memoir to the Imperial Academy of Medicine, which appeared in the 'Annales Médico-psychologiques,' January, 1870, in which he concludes—1. The number of the insane in French asylums has increased since 1835 from 10,539 to 38,545 (nearly quadrupled). 2. The relative number, or the proportion of insane in asylums to the population, has risen from 3·16 to 10·03 in the 10,000 (tripled). 3. There is a continued yearly increase in the asylum population. This has gradually risen from the rate of between 400 and 500 a year, which it was previous to the law of 1838, to a yearly increase of from 600 to 1300, but since 1862 there has been a manifest yearly decrease, and the yearly increase has fallen to between 800 and 900. (This yearly increase in the asylum population is shown to have fallen from 5·94 per cent. in the five years 1841—46 to 2·57 in 1868.) In the Department of the Seine the admissions increased from 1800 to 1876 more than sixfold, while during that period the population of Paris scarcely augmented threefold ('Rapport,' 1877, p. 6).

M. Lunier accounts for the apparently greater number of cases of Insanity by the increased confidence felt by the people in asylums, and the decreased tendency to conceal the occurrence of madness in their families. He, however, excludes from this satisfactory conclusion "the Insanity resulting from alcoholic abuse, and still more that form termed General Paralysis of the insane, which I am tempted to call the disease of this century, and which appears to increase not only in the large towns but also for many years past in the smaller centres of population with most alarming rapidity." He adds, "Fortunately, the extension of mental disease is to some extent counterbalanced by its diminution in France in the cases of Cretinism and Idiocy."*

* 'Annales Médico-psychologiques,' Janvier, 1870, p. 33.

For the United States of America we have no later return than that of the Census of 1870, which gave 36,786 lunatics and 24,395 idiots, or 1 in 622 of the population. This ratio is well known to be much under the mark.

SECTION V.—Relative frequency of the Various Forms of Mental Disorder.

A difficulty arises from the various senses in which the same terms are employed. We have ascertained the form on *admission* from a considerable number of Asylum Reports, and believe that the difference which exists between them is chiefly occasioned by the different views entertained in regard to "Monomania." When it constitutes a separate and important division, under which are included Monomania of Pride and Vanity, &c., and the several forms of Moral Insanity, the proportions per cent. (exclusive of Idiocy) appear to be usually as follows:—Mania (acute and chronic), 50; Melancholia, 30; Dementia, 11; Monomania, 8 or 9. When, however, few or no cases are referred by the reporter to "Monomania," the admissions under the head of "Mania" are proportionately increased. Probably most who employ the term Monomania mean Delusion on one class of subjects. In Dr Boyd's statistics, about to be referred to, the term is not employed "unless the power of reasoning correctly on subjects unconnected with the illusion is retained." If Melancholia should connect itself with the subject of Delusion, the case would be classed as Melancholia.

A very different proportion would appear, if we calculated the relative frequency of the various forms when the patients *die*, the largest number at the time of death being examples of Dementia (frequently complicated with General Paralysis). The next form of Insanity in order of frequency, at the time of death, is Mania (usually chronic); then Melancholia; and lastly Monomania.

From Dr Boyd's article on "Vital Statistics," based on 2000 male and female admissions into the Somerset County Asylum, we have calculated the proportions relative to the forms of Insanity admitted. (See 'Journal of Mental Science,' Jan., 1865.)

Excluding the re-admissions, the Forms of Mental Disorder on admission were as follows:—Mania 42·9 per cent., Melancholia 18·4 per cent., Dementia 10·6 per cent., Monomania 5·3,

General Paralysis 5·1 per cent., Idiocy 4·3 per cent., Moral Insanity 1·1 per cent., Delirium Tremens 1·4 per cent., Epilepsy 10·9 per cent.

Of the male admissions the proportions per cent. were as follows :—Mania 39·4, Melancholia 15·2, Dementia 9·2, Monomania 6·2, General Paralysis 8·3, Delirium Tremens 1·4, Moral Insanity 1·4, Epilepsy 12·2.

Of the female admissions the proportions per cent. were as follows :—Mania (including Puerperal Mania 6·0) 46·3, Melancholia 21·6, Dementia 12·1, Monomania 4·5, Idiocy 3·1, General Paralysis 2·0, Moral Insanity 0·8, Delirium Tremens 0·1, Epilepsy 9·5.

The subjoined summary by Dr Boyd will be of use to the reader :

"In early life, Idiocy (not complicated with Epilepsy) and Epilepsy prevailed amongst the males, nearly two thirds of the cases being of these classes, as might be expected, the one being congenital, and the other usually a disease originating in early life; whilst among the females at the earlier periods, Mania was the most prevalent form, and the cases of Idiocy and Epilepsy were not half so numerous as in the males," the reverse of what is stated by Copland. "The annual reports of this institution have shown a preponderance of male Epileptics. The greater size of the head of the male fœtus, and consequently the greater difficulty and liability to injury in parturition, renders the males more liable to convulsive diseases in early life. On December 31st, 1862, of 71 Epileptics, 38 were males. From 25 to 55, Mania was the most prevalent form of Insanity in both males and females. Melancholia was most common in males from 60 to 65, in female patients from 20 to 35 and from 40 to 45; on the whole, it was most frequent in females. Monomania was more common in males than females from 25 to 60. Dementia occurred from 30 to 60, after which, cases of (senile) fatuity were included; it prevailed most among females. Cases of General Paralysis occurred from 30 to 60, and were four times greater among males than females. Delirium Tremens occurred from 35 to 45, and was almost exclusively confined to males, and the readmissions of these patients once affected with delirium tremens were in a large proportion to their numbers. The other cases of admissions were chiefly cases of recurrent Mania and of Melancholia. The cases of Mania and recurrent Mania were the most numerous in both sexes, but most so in the females," contrary to the statement of Copland. Dr Boyd observes that his statistics confirm the remark of Esquirol that "Insanity may be divided into Imbecility for childhood, Mania and Monomania for youth, Melancholy for mature age, and Dementia for advanced life." With regard to partial Insanity, under which Dr Boyd comprises Monomania, Melancholia, and Moral Insanity, there were not many cases under 20; "but at the next period, from 20 to 30, when the feelings and affections are fully developed, the cases were numerous amongst females. In the next period, from 30 to 40, the numbers were more nearly equal between the sexes, but still greatest amongst females; and again from 40 to 50 the proportion of females was much greater than of males, the cases of Melancholia being more than double. After 50, these cases rapidly diminished in number, especially amongst

females, the number amongst the males gradually exceeding those of the females at the later periods of life; on the whole, the females were more numerous than males. . . . Moral Insanity occurred before the middle period of life; the cases are few (18). Melancholia is the most common form of partial Insanity. . . . Some of this class have no disorder of the understanding, and manifest no delusion."

"Of the 189 cases of Dementia none occurred before the age of 20, and only six from 20 to 25; as age advances, the numbers gradually increase to the latest period of life, and in this respect it differs from every other form of Insanity."

"The earliest period at which General Paralysis occurred was from 25 to 30. From 30 to 40 there were 27 males and 7 females. From 40 to 50 there were 31 males and 7 females. From 50 to 60 and upwards there were 11 males and 3 females. The total numbers were 72 males and 17 females.

"There were 75 cases of Idiocy, exclusive of those cases complicated with Epilepsy which have been included with the 189 cases of Epilepsy." (Op. cit., pp. 496—502.)

SECTION VI.—Proportion of Recoveries. Prognosis.

The method of calculating the proportion of recoveries has been the subject of some difference of opinion, and has involved a corresponding diversity of practice. Very generally, however, and, in our opinion, correctly, the recoveries have been calculated on the admissions. Dr Farr, on the contrary, has, in some instances, calculated the recoveries upon the discharges. The superiority of the former method has, we think, been conclusively shown by Dr Thurnam.

From the elaborate statistical tables of the latter it would appear that, during a term of years, the recoveries in a large number of British, American, and Continental Asylums varied, at the period at which he wrote, from about 25 to 50 per cent. An examination of the later reports of asylums for the insane will show that the difference between the *maximum* and *minimum* continues to be very similar; of course in asylums where only curable patients are admitted, the percentage of cures will be much higher—60 per cent., for example, as has happened at St. Luke's during a term of ten years. It is quite as true as when the 'Statistics of Insanity' was published that, "as regards the recoveries in asylums which have been established during any considerable period,—say twenty years,—a proportion of much less than 40 per cent. of the admissions (including readmissions) is, under ordinary circumstances, to be regarded as a low proportion, and one much exceeding 45 per cent. as a high proportion" (p. 136).

In the last Report of the Lunacy Commissioners (1877) the

recoveries in the Lunatic Asylums, Hospitals, Licensed Houses, &c., in England and Wales, during eighteen years (1859—1877) are given. It appears that of the patients admitted during this period 34·1 per cent. were discharged cured. The percentage for each year was about the same. The proportion of recoveries was highest in Registered Hospitals (38·3); then follow County and Borough Asylums (35·7); Provincial Licensed Houses (31·4; Metropolitan ditto (27·0); Naval and Military Hospitals (26·7); Criminal Asylums (17·6).

In considering the probabilities of recovery in any case of Insanity the following points must be regarded.

1. It is of great importance to remember that the chances of cure are much greater when cases are subjected to treatment in the really early stage of the disorder. This is clearly shown by the experience of the York Retreat in the table given below.

This remains true, although there are several fallacies closely connected with it which cause disappointment in endeavouring to act upon it. One of these is that a vast number of so-called recent cases are not recent, and that among pauper lunatics they are often not in their nature curable, however early they are admitted into an asylum. Hence the attempts made to have a separate ward for "recent" cases in one of the Middlesex asylums, and to afford every facility for admission, have led to much disappointment.

TABLE.—*Showing the Average Proportion of the Recoveries, in Cases of Recent and Longer Duration when admitted,* 1796 *to* 1872.

Duration of Disorder when admitted.	Proportion of Recoveries per cent. of Admissions.		
	Male.	Female.	Total.
First Class—First attack, and within 3 months .	69·79	74·10	72·13
Second Class—First attack, above 3, and within 12 months	43·03	42·81	43·01
Third Class—Not first attack, and within 12 months	57·84	65·16	61·96
Fourth Class—First or not first attack, and more than 12 months	12·21	20·10	16·44
Percentage of cases recovered . .	40·90	48·17	44·99

From the above it will be seen that when first attacks were treated within three months of their occurrence, above 70 per cent. of such patients admitted into the Retreat up to the year 1872 have been cured. By some physicians the proportion is stated to have been higher, but this will often happen within a short and not a longer term of years. Thus, at the Retreat, the proportion of recoveries in the same recent class of cases was, up to 1840, about 80 per cent. Further, if any unpromising cases (those, for instance, which are complicated with epilepsy or paralysis) are excluded by those who make the report, the fact of still more favorable returns is easily explained. In a table of the English Lunacy Report it appears that of 2209 patients admitted in 1857, the duration of whose disorder was under *one month*, 1125, or 50·9 per cent., and of those insane under three months 48 per cent., were discharged cured in the three years 1857—1859. Of those admitted who had been insane six years and upwards, only 5 per cent. recovered. The experience of the York Asylum from 1846 to 1872 was to the same effect.

The statement would not be justified by these figures that if all cases of Insanity were placed under good asylum treatment within three months of the attack, 70 per cent. would recover, even of persons in the same social position. This would be a much too sanguine conclusion to arrive at, because a larger proportion of curable cases, *e.g.* acute mania, are sent to an asylum than others, in an early stage of the attack. On this and many other points mere figures are grievously misleading.

In connection with the figures in the last line of the above table, it must be clearly understood that they refer to *cases*, and not to individuals. The same individual may appear more than once, and therefore increase the number of cases, whether in the admissions or the discharges. Hence, in regard to the proportion of recoveries of patients, it might happen that a patient recovered and relapsed a great many times, and so, by increasing the apparent recovery of patients, give a false idea of the number cured. We might from this source of fallacy report that 50 per cent. of patients were discharged cured from an asylum, whereas the proportion was actually much lower, in regard to individuals. It is true that the skill of the physician was equally called into play in relieving the mental disease in 50 per cent. of the cases; but if we desire to ascertain the number of *persons* who are really restored to society cured, we

must take the number of individuals, and not the same individual over and over again. Otherwise, we may fancy we have rescued from the useless condition of Insanity several members of society, whereas only one individual has for short periods returned to his friends, to die ultimately in the wards of an asylum. There is no doubt that from this cause too hopeful views have been entertained as to the permanent curability of Insanity, which is the practical question, and that which presents itself when we have to show that by the prompt and skilful treatment of the disease we shall economise in the long run, and shall not only save in the expense of building and enlarging asylums, but in the restoration of able-minded men to the various occupations from which they have been taken by attacks of mental disorder. It is of course something to patch up the mental fabric for a few years or even months, but this is not what people understand when they talk of cures. Cures with them are identical with the cures of different patients, whereas in the percentages ordinarily given in asylum reports, the cures do not represent the number of individuals cured, but simply the number of cures after attacks of Insanity, whether in the same person or not. And, again, by cures they generally understand lasting recoveries, in the same sense as in bodily diseases with which the comparison is made. It is said, again and again, that Insanity is at least as curable as pneumonia, rheumatism, &c., if taken in time, but it is forgotten that after recovery, relapses—and these very possibly not recovered from —are frequent in Insanity and rare in pneumonia. To compare the cures in the two diseases is therefore not fair, unless the relative frequency of relapses is allowed for.

The total figures in the above table refer, as we have said, to cases, not necessarily to different persons. As this remark does not apply to the cases of "first attack," since in these there is no source of fallacy from reporting the same person as cured more than once, the main drawback to the favorable inference drawn lies here in the possible relapses.

If now—taking the experience of the Retreat from 1796 to 1878—for the gross amount of cases of all classes, we substitute patients, we find that while 577 cases were discharged recovered, only 415 persons recovered; the percentage of recoveries on admissions being 43·22 in the former, and 40·37 in the latter.*

* The fallacy of the usual mode of calculating recoveries is, it is true, modified, though not neutralised by the cases being included in the *admissions* as well as in

Of the above 415 persons, 320 were admitted for the first time, 66 were admitted twice, 17 three times, 6 four times, 3 five times, 1 seven times, 1 nine times, and 1 nineteen times, thus making 577 cases.

First admissions must not be confounded with the number of patients who were only admitted once. This distinction is sometimes lost sight of. At the Retreat there were, from 1796 to 1878, 1028 first admissions, while there were no more than 823 who were only admitted a single time. The former (first admissions) correspond to *persons*, the latter to only that portion of these persons who did not return to the institution.

If the recoveries in asylums were calculated on the persons who were only once admitted, the proportion would be found to be low, because persons subject to attacks of recurrent insanity are eliminated. This is well shown in the following table, for the preparation of which to illustrate this observation the writer is indebted to Dr Baker, the Superintendent of the York Retreat:

TABLE *showing the recoveries per cent. of the admissions of persons at the York Retreat from* 1796 *to* 1878, *according as they have been admitted once, twice, or three times.*

Number of times admitted.	Percentages of recoveries upon admissions of *persons*.					
	M.	F.	M.	F.	M.	F.
1	35·6	41·0	—	—	—	—
2	—	—	50·0	43·4	—	—
3	—	—	—	—	40·0	64·1
Both sexes . .	38·5		41·5		53·0	

If we desire to form an opinion as to the number of persons who are restored to society permanently, or at least for a long

the recoveries. Thus, at the Retreat during the period above mentioned (1796—1878) twenty cures of one patient have swollen the admissions as well as the recoveries. If we calculate the cases which recovered and the persons who recovered alike on the total admissions (instead of the persons who recovered on the persons admitted) the former would show, as above, 43·22, and the latter 31·08; the true mode of calculation (on persons admitted) showing 40·37, as in the text.

period of time, we arrive at a much fairer conclusion by restricting our inquiry to the recoveries of persons only admitted once into an asylum. As shown in the above table, of this class only 38·5 recovered, while of those persons who suffered from three attacks of insanity—and were therefore more curable patients (for a time)—as many as 53 per cent. were discharged recovered. In this calculation of course only one of the three recoveries is enumerated, or they would constitute cases.

It has in many institutions been observed that the reported recoveries during the earlier periods of an asylum are greater than in the later periods, although it is to be supposed that latterly medical skill must have been at least as great as formerly.*

When this at first startling result of statistical comparisons does occur, various reasons have been assigned, among which may be enumerated (*a*), the larger proportion of chronic incurable cases, which, instead of being uncared for or cared for in workhouses, have been brought to asylums in proportion as public attention has been directed to their neglected condition, and the large provision made for their care; (*b*), the probable increase of General Paralysis; (*c*), the calculation in some instances of the recoveries on the discharges in the earlier period, and on the admissions in the later period; (*d*), the more conscientious and scientific care probably exercised now than formerly in returning as recovered, discharged patients who are only improved, in connection with which must be mentioned the plan of sending patients out on trial before actually discharging them; (*e*), the very small number of cases upon which earlier calculations were made; and lastly (*f*), the tendency to retain in asylums a good many patients who might be allowed to leave, from the humane motive of preserving them from almost certain relapse. If there has been in any instance a *real* falling off in curing the patients in an asylum, we should attribute it to the philanthropic zeal and humanity which, in the early years of a charity, may have influenced the individual treatment and cure of the inmates. The apparently unfavorable statistics of some

* Dr Earle has in regard to 20 American asylums shown a very remarkable fall in the reported cures in the last five years of their history as compared with the second quinquennium; namely, for every 100 that recovered in the former period, only about 74 recovered in the latter. The fallacy of taking the recoveries of cases instead of persons has been ably insisted upon and illustrated by Dr Earle in a pamphlet on 'The Curability of Insanity' (1877), which is deserving of serious study by the Superintendents of asylums in Britain as well as in the States.

modern institutions in the matter of recovery, as compared with old ones, where there can be no question that the treatment, moral and medical, was infinitely inferior to the present, arises, we can have no doubt, from the returns in one case being honest, and in the other "cooked." Dr Earle inclines to think that insanity has become more inveterate and actually incurable.

It is to be hoped that the plan will be adopted in asylum Reports of specifying the number of persons who have been cured as well as the number of cases. The number of relapses out of these up to the date of the Report should also be given. There is, we think, an advantage in the duration of time of the attack being given as well, provided first attacks are distinguished. If no time-table is given, it is impossible to test the truth of the statement that the hope of recovery is greater, the earlier the patient is placed under medical treatment.

Cases of recovery after the disorder has lasted many years, although exceptional, are not wanting. Dr Buttolph, of the Trenton Hospital for the Insane, in one of his Annual Reports, records the case of a female who recovered after being insane eighteen years, and a male after six years. In the Report of the Devon Asylum (1850) is mentioned the recovery of a female patient who had been maniacal for twenty years. Rush relates the case of a farmer who recovered after being insane eighteen years. Recently we have seen a patient in Bethlem Hospital recover after fifteen years of profound melancholia. When Dr Williams used to ask him to play at billiards he refused. One day, the marker being away, Dr Williams pressed him to help as a kindness. He consented, and this seemed to be the turning point in his recovery. Of sudden recoveries a good example occurred in a puerperal case we saw not long since at Bethlem. The woman said one day after her dinner that she felt that she had recovered her reason, and so it proved; nor had she any relapse. Her expression was, "I feel changed and am now quite well."

Lastly, it may be observed that in the experience of the Retreat more than one third have been discharged within six months after admission. The average duration of residence has been about a year and four months.

There are various other circumstances, besides the duration of the disorder, which affect the prospect of recovery. Among these may be enumerated the form of the disorder, physical complications, and the occurrence of acute disease, the cause of

the attack, age, sex, civil or social condition, hereditary predisposition, and the season of the year.

2. In illustration of the influence of the form of the mental disorder upon recovery, we may adduce the experience of Dr Kirkbride, of the Pennsylvania Hospital for the Insane, from its opening in 1841 to 1873, during which period 2994 patients were discharged cured. The proportion of the cures on the admissions were for Mania 57 per cent.; for Melancholia they amounted to 48 per cent.; for Monomania 46 per cent.; and, lastly, for Dementia, 9 per cent.—most of which, it is scarcely necessary to observe, were of the acute form.

Dr Earle in his tables, already referred to, gives the following percentages:

	Admitted.		Discharged.			
Mania,	Of 548 both sexes,		214 recovered	=	39·05	per cent.
Melancholia,	Of 147	„	35	„	= 23·81	„
Monomania,	Of 19	„	9	„	= 47·36	„
Dementia,	Of 297	„	25	„	= 8·41	„

Dr Earle adds that these results do not differ greatly from his opinions as derived from observation, with the exception of those relating to Monomania; it being, in his experience, the most incurable of all. They were, with two exceptions, admitted before Dr Earle's superintendence, and he has reason to believe they were cases of Dipsomania, and incorrectly entered under Monomania. Of 29 cases of Dipsomania, 24 "recovered" in the sense only of being restored to sobriety.

At the York Asylum, during twenty-seven years, of 457 cases of Acute Mania admitted, 292, or 63·89 per cent., recovered. Of 110 cases of chronic ditto 7, or 6·36 per cent., recovered. Of 250 cases of Melancholia 118, or 47·2 per cent., recovered. Of 157 cases of Dementia 1 recovered.

Dr Boyd's statistics of admissions (1741 in number, exclusive of re-admissions) and recoveries, at the Somerset County Asylum, show that the latter were greatest in Mania. Then followed Melancholia, Monomania, Dementia.

3. Among physical complications, the presence of epilepsy, while it does not necessarily prevent partial recovery, renders a permanent cure highly improbable. Dr Boyd, however, gives a proportion of 6·6 per cent. for men, and 7·1 for women. Apoplexy or paralysis is so grave a complication that some writers speak of the accompanying mental disease as hopelessly incurable; but while this is the general rule, we have known

some striking exceptions. Paralysis may remain and the mind recover. We do not include in these remarks the general paralysis of the insane, lasting recovery from which the writer has not witnessed.

The blood tumour of the ear, first described by M. Ferrus ('Gazette des Hôpitaux,' 1838), adds, when present, if not due to violence, to the serious nature of the case. It indicates that nutrition is much below par. Although occasionally, perhaps frequently, the result of a blow or fall, there can be no reasonable doubt that *hæmatoma auris* may occur independently of either. In the July number of the 'American Journal of Insanity,' 1870, Dr Hun gives the details of twenty-four cases. It is noteworthy that only one was a female; eight patients laboured under General Paralysis, six under Melancholia, four under Acute Mania, four under Chronic Mania, two under Dementia.*

Dr Stedman, in a Report of the Boston Lunatic Hospital, observes, that "a man who has been insane above twenty years and was very unmanageable, was attacked with dysentery and remained dangerously ill for some weeks. He recovered from dysentery, and now no patient in the house is more quiet and controllable, indeed, to many he would appear mentally sound." Cases of temporary recovery of the intellectual powers from the accession of an acute disorder may here be referred to, such as the rare case of the female related by S. Tuke in his 'Description of the Retreat,' who, after being demented for many years, was attacked by typhus fever. During the stage of excitement, when others are usually delirious, she was entirely rational. "She recognised in the face of her medical attendant the son of her old master whom she had known so many years before; and she related many circumstances respecting the family and others which had happened to herself in her earlier days. But, alas! it was only the gleam of reason; as the fever abated, clouds again enveloped the mind, she sank into her former deplorable state, and remained in it until her death, which happened a few years afterwards." Recently we have seen a female patient at

* In nine instances both ears were affected; the right alone in nine, and the left in five cases; in one not stated. See Magnan's views on this tumour in the 'Annales Médico-psychologiques,' May, 1871; also the 'Journal of Mental Science,' 1854, for "Fischer's Researches," translated by Dr Arlidge, and the same Journal for July, 1862. In nine of the above twenty-four cases the patients died in the asylum, in the same number they were discharged unimproved, while the six remaining were cases of dementia.

Bethlem relieved by asthma—the physical alternating with the mental affliction.

The following circumstances happening during an attack of Insanity may act favorably upon the disease :—Discharges of any kind after being suppressed, parturition, cutaneous eruptions, sudden moral shocks, accidents. We know of a case in which a very severe fall upon the head had the happy effect of causing recovery.

4. With regard to the relation of the cause of the attack to recovery, it may be observed, that so far as the experience of the Retreat goes, physical causes have appeared most to interfere with the prospects of recovery among the female patients; while among the males, those cases which were due to moral causes have recovered least favorably. Those marked by intemperance often rapidly recover, and remain well while under asylum supervision, to relapse again when exposed to the original occasion of the attack. The generally favorable termination of puerperal cases will be seen in the section on this form of Insanity. Insanity occurring after fever is sometimes permanent, but is also not unfrequently recovered from in the most satisfactory manner. Too much importance must not, therefore, be attached to continued fever as a cause, unless its form has been such as to involve primarily, and seriously impair, the cerebral functions. The result of those cases of Insanity which follow traumatic affections of the head is unfavorable, though we have known remarkable exceptions to this general rule. Those due to sexual vice are very unpromising, ever tending to dementia.

5. In referring to age, it may be stated that at Bethlem, of those admitted under twenty-five, about three fifths have recovered; between thirty and sixty-five, about one half were cured; and of admissions after the last-mentioned age, about one seventh recovered. At the Somerset Asylum the most favorable age for recovery has been from twenty-five to thirty-five, amounting to nearly 42 per cent. of the whole, the admissions being more frequent at this decade, and the prevailing form of Insanity being Mania (Boyd). Insanity in the young cannot be regarded hopefully. First attacks of Insanity after fifty are unfavorable. In Dr Boyd's Tables, out of 2000 admissions (including re-admissions) 746 were discharged cured, and of these 153 recovered after fifty, 74 after sixty, and 15 above seventy. It is needless to add that, when loss of mental

power is caused by advanced age, recovery is hopeless, although there may be transient gleams of intelligence. The writer knows a case, that of an elderly lady, who, after being the subject of senile dementia for years, spoke rationally for a short time within twenty-four hours of her death. It is a popular belief that this brightening before death is frequent with the insane generally. In our experience, however, it is extremely rare. At the York Retreat this alleviation of the symptoms, so far as it has been observed and recorded, took place most frequently in Mania. Dr Thurnam's statistics record 8 cases out of 33 of Mania, as many out of 45 cases of Melancholia, and 2 cases out of 14 of Monomania, in which a most decided improvement before death occurred. Of these, however, there were three cases in which the patient was considered convalescent and was taken off suddenly by such disorders as apoplexy and epilepsy. The less frequent fact of the aggravation of the disorder was observed in two cases of Melancholia. A patient at the Wakefield Asylum, under Dr Major, seen by the writer when in a profoundly melancholy and unpromising state, brightened up before death in a remarkable manner, and thanked those who had attended to him for their kindness. He had been insane nearly three years, and died of phthisis.

6. As regards sex, in relation to recovery, it has been found at Bethlem that there is not so much difference between the sexes as some other statistics indicate. During ten years, 54·4 per cent. recovered among the females, and 53·8 among the males. (Hood, p. 27.) At the Retreat (from 1796 to 1861) the difference in favour of the women was, however, as great as 5·5 per cent. Up to 1872 this difference was about 7 per cent. At St. Yon (Rouen) the excess was about 6 per cent. (Parchappe). At the Somerset Asylum (Dr Boyd's tables) it was 3, and at the York Asylum (Dr Needham's tables) about 2 per cent. The comparative infrequency of General Paralysis among women must always make a difference in favour of this sex.

7. There has been only a slight difference observable at Bethlem in the recoveries of the married and unmarried, namely, *married* 54·9, *unmarried* 53·8, and *widowed* 50 per cent.

8. Hereditary predisposition is unfavorable to permanent recovery; that is to say, although it does not always injuriously affect the probability of cure in the first instance, it renders relapses much more probable.

9. The season of the year which has a beneficial influence upon recovery is one neither of extreme heat nor cold. At St. Yon the autumn quarter has proved the most favorable, the winter quarter the reverse. Thus, 518 cures were distributed as follows:—Winter quarter (December, January, February), 92; spring (March, April, May), 123; summer (June, July, August), 142; autumn (September, October, November), 158. We see, however, that at the Pennsylvania Hospital Dr Kirkbrides' statistics as to the period of recovery from 1841 to 1873 show the following result:—Total number of cures 2994. Winter quarter, 659; spring, 710; summer, 817; autumn, 808; giving the highest number for the summer quarter. The largest number recovered in July. In comparing this with the foregoing, the reader must allow for some difference between the American and French seasons.

IV. Relapses.—But the preceding estimate of recoveries would be obviously imperfect without a consideration of the question, What proportion of those who recover subsequently relapse?

In 1851, Dr. Max Jacobi traced the after history of 661 patients who had been admitted into the Siegburg Asylum during twenty years (1825—1845). Of these, 322 had not relapsed; 127 had relapsed once and recovered again; 64 had relapsed and appeared incurable; 11 remained under care; 137 had died, of whom 68 had not relapsed; 57 died insane, while there were 12, respecting whom no information could be procured. Thus about 50 per cent. relapsed, a proportion Conolly reckoned for Hanwell. In the course of years no doubt more would relapse.

Dr Mitchell has traced the history of 1297 patients admitted into Scotch Asylums for the first time in 1858 (and in no asylums before), and ascertained their condition twelve years afterwards (1870). The result was:

Recovered	851
Not recovered	261
Dead	412
Re-admitted	499
Remaining	273

Of the 851 recoveries only 538 *persons* recovered, or 41·5 per cent. of the admissions; of these, 316 (or 59 per cent. of 538) relapsed for a time, leaving 109, who either remained or died insane. The remaining 429 permanently disappeared as recovered, being 33 per cent. of the original number admitted.

It will be seen that as 412 died and 273 remained, 685 or 53 per cent. were accounted for, while 612 or 47 per cent. had disappeared at the end of the twelve years. These were traced as far as possible, and it was found that :

42 had died insane.
78 „ sane.
94 were living insane.
197 „ sane.

Thus 411 out of the 612 were accounted for, the remaining 201 not being traced. Dr Mitchell felt justified, however, in assuming that these cases would terminate in the same proportion, and therefore constructed the following table :

	Percentage.	
1. As dead in asylum	31·7	
„ after leaving asylum but insane at death ...	4·9	
		36·6
2. As still alive and in asylum	21·0	
„ but out of asylum and insane	10·7	
		31·7
Yielding a total for all those who had either died insane or were still living insane of		68·3
3. As having died out of the asylum, being sane at death ...	9·0	
As still alive and sane	22·7	
		31·7
		100·0

Thus in 12 years, of 1297 persons :

36·6 per cent. died insane.
31·7 „ are still alive and insane.
31·7 „ are either still alive and sane or died sane.*
100·0

It will be seen from the above that after twelve years there were 68·3 per cent. of those admitted either still living insane, or who had died insane. As of the former, but few would recover, and of those who were living in a state of sanity some would relapse; this result is more favourable than it will eventually prove to be. Probably at least 73 per cent. would at death be insane; leaving only about 27 per cent. of the total number of persons admitted who would die in a state of sanity.

Dr Thurnam succeeded in tracing out the subsequent history of every patient who had been under care at the Retreat,

* "Contributions to the Statistics of Insanity," by Arthur Mitchell, M.D., LL.D., 'Journal of Mental Science,' Jan., 1877.

during forty-four years, *in whom death had occurred.* As the history of each case was therefore completed, the table which follows is of greater value than those prepared by Jacobi and Mitchell. That of the latter, however, will, when completed, surpass both, from the larger number of cases.

Patients followed through life.	Died insane during the first attack.	Recovered from first attack.				
		Total.	Recovery permanent. Died sane.	Had subsequent attack.		
				Died sane.	Died insane.	Total.
Males . . 113	55	58	21	6	31	37
Females . 131	58	73	24	14	35	49
Total . 244	113	131	45	20	66	86

From this it appears that, of 131 patients discharged cured (after the first attack), only 45, or 35 per cent., had no return of the disorder. But of the 86 who had a return of the disease, 20 died sane. Hence, only 65 or 26·8 per cent. of the whole number (244) died in a state of sanity. Of those who recovered, about 50 per cent. permanently relapsed.

We gave Dr Thurnam's summary in the last edition, but it would be more strictly correct to say, of 11 persons attacked by Insanity, 6 recover, and 5 die sooner or later during the attack. Of the 6 who recover, not more than 2 remain well during the rest of their lives; the other 4 sustain subsequent attacks, during which at least 3 of them die. "But, although the picture is thus an unfavorable one, it is very far from justifying the popular prejudice that Insanity is virtually an incurable disease; and the view which it presents is much modified by the long intervals which frequently occur between the attacks; during which intervals of mental health (in many cases of from ten to twenty years' duration) the individual has lived in all the enjoyments of social life" (op. cit., p. 123).

V. Mortality.—Much diversity of practice has obtained in regard to the mode of calculating the deaths in asylums for the insane—some having calculated them on the admissions or on the discharges; while the correct method is that of taking for the basis of calculation the mean number of patients resident in an asylum—in other words, its average population.

From the Lunacy Report of 1877 we learn the annual rate

of mortality during eighteen years ending December 31st, 1876. The deaths (calculated on the mean numbers resident, viz. 33,442) amounted to 10·3 per cent. The sexes are not distinguished; we may, however, repeat those given in former editions for the five years ending 1858, viz. for males 13·25, and for females only 8·96—corroborating the remarks made in a former Section, on the greater mortality of male lunatics. The mortality (for both sexes) during the above eighteen years was only 7·5 in the Registered Hospitals. In Provincial Licensed Houses it was 8·6; County and Borough Asylums, 10·8; in the Metropolitan Licensed Houses, 10·8 per cent.; and in the Naval and Military Hospitals and Royal India Asylum, 9·8 per cent. From the last Report of the Scotch Commissioners, 1877, it appears that, separating the private patients in asylums from the paupers, the average mortality calculated on the numbers resident in the nineteen years 1858—1876 was for the former class, males 8·2, females 6·7; and for the latter class, males 9·7, females 8·2. At the Retreat, from its opening to the year 1877, the annual mortality has been 4·41, being 5·20 among the male, and 3·85 among the female patients. At the York Asylum for the twenty-seven years ending December, 1877, the corresponding figures are, 6·81; 8·33; 5·06. The above statistics range (for both sexes) between 5 and about 11 per cent., a mortality beyond which, for a mixed class of patients, must be regarded as excessive, while one of 6 or 7 cent. is very satisfactory.

The period of the year exerts the same influence on the mortality of the insane as the sane. In the French asylums, spring and winter are the most fatal periods of the year; then autumn, and lastly summer.

Of every 100 deaths which took place in asylums in Scotland in the seven years 1865—71, 53·70 occurred in winter, and 46·29 in summer (Report, 1872).

At Bethlem Hospital, the deaths during the winter months appear to have only very slightly exceeded those which occurred during the summer months. (Hood's 'Statistics.' p. 81.)

A most important question remains to be answered. Is the mortality greater among the insane than the sane? Undoubtedly it is. The average annual mortality at all ages in England and Wales for the seventeen years ending 1854, was 2·33 per cent. for males, and 2·17 for females; the mortality for the ages above twenty was 2·53 per cent. for

males, and 2·48 for females. It will be seen that although this is a more correct period to take for comparison, the difference in mortality between the longer and shorter period is so slight as not materially to affect the result. Now, in every asylum for the insane, whether at home or abroad, statistics of which are published, the rate of mortality is very much higher. We have already given the mortality in the asylums of our own country; the lowest mortality being more than double the above, namely, 5·29. At St Yon (Rouen) during seventeen years, it was 7·6 per cent. The average age, at the origin of the disorder, of the patients who died at the Retreat, from 1796—1840, was about 39 years, at which period the expectation of life is at least 28 years. Instead, however, of the average age, at death, of these patients being 67 (39 + 28), it was only 56. At the York Asylum the average age at death was 49½ and should have been 66 ('Statistics of Insanity,' p. 101.) The high mortality of the insane at various ages will be seen from the following table. No more recent return has been made by the Commissioners in Lunacy than this, which is obtained from their Report for 1861, Appendix I. We have derived the mortality of the general population from the Registrar-General's Reports for the corresponding years.

TABLE.—*Showing the Mean Annual Mortality per cent. at different ages in the County and Borough Asylums, Hospitals, and Licensed Houses of England and Wales during the five years ending Dec.* 31, 1858; *compared with the Mortality at the same ages during the same years in the general population of England and Wales.*

AGE.	Insane in asylums.		General population.	
	Males.	Females.	Males.	Females.
15—25	8·26	7·87	·77	·81
25—35	10·36	7·17	·95	·99
35—45	14·35	7·66	1·26	1·20
45—55	14·44	7·36	1·77	1·50
55—65	13·70	10·35	3·06	2·75
65—70	22·41	17·22	6·65	5·68
70—75	...	...		
70 and upwards ...	31·16	25·76	11·83	11·09
75—85	...	...	14·67	13·39
85—95	...	...	30·72	28·12

As the above is a high mortality, and extends over a short period, it may give a juster impression to add the lower death-rate of the York Lunatic Asylum (1814—1840), and the Retreat (1796—1840), which we have thrown together from table 26 and table E of the 'Statistics of Insanity.' We are unable to give the same decennial periods as in the previous table.

Age.	Both sexes.	
	Insane.	Sane.
20—30	4·18	·98
30—40	4·80	1·16
40—50	6·35	1·43
50—60	5·43	2·14
60—70	6·61	4·05
70—80	10·33	8·74
80—90	26·49	19·08
All ages	6·02	2·24

Dr Farr has strongly insisted on the greater rate of mortality among the insane than the sane. ('Stat. Journ.,' April, 1841, p. 24.) We have his authority for stating that he holds the same views now that he did then. It does not, however, necessarily follow, from the foregoing, that Insanity itself accounts for the whole of this shortening of life, inasmuch as the circumstances which have induced the disease (as intemperance, vice, and bodily disorders) may be the real cause of injuring the constitution, and curtailing the life of the patient, independently of mental disease. But there can be no question that a part of the high mortality of the insane is directly due to acute attacks of the disease itself proving fatal, and above all to General Paralysis.

It is clear that whatever influence Insanity has upon the duration of life when the disease is in its acute stage, and in General Paralysis, there is not anything like the same tendency in this direction when it has assumed a chronic form.

A London Actuary, Mr John Le Cappelain, taking Dr Thurnam's statistics as his guide, drew up the following table for the Massachussetts Commission on Lunacy in 1855.

The average length of insane life of persons incurably deranged is—

	Males.	Females.
If attacked at 20 years of age ...	21·31 years. ...	28·66 years.
„ 30 „ ...	20·64 „ ...	26·33 „
„ 40 „ ...	17·65 „ ...	21·53 „
„ 50 „ ...	13·53 „ ...	17·67 „
„ 60 „ ...	11·91 „ ...	12·51 „
„ 70 „ ...	9·15 „ ...	8·87 „

Dr Farr states that at Bethlem and St Luke's the annual mortality among the "curables" was 11 per cent., and only 6 per cent. among the "incurables" (chronic cases); and at Hanwell, among those in a state of Mania, Monomania, or Melancholia, it was about 12 per cent., while in cases of Dementia the mortality was 8 per cent.

It was found by Dr Thurnam that in asylums generally, there is rarely a larger proportion than 20 per cent. of deaths in persons above 60, and that at the York Asylum it was, during a certain number of years, 26 per cent., and at the Retreat 45 per cent., and of these 11 per cent. were from 80 to 97 years old. It may be added that the average duration of the disorder at death was above 17 years.

Summary as regards Prognosis.

The foregoing examination, by the numerical method, of the experience of Institutions for the Insane, may be thus summarised and extended—mainly in regard to recovery of mental health.

Hereditary predisposition is unfavorable to permanent recovery, but not at all necessarily so to the restoration of mental health in the first instance, some statistics showing particularly favorable results. If the constitution is saturated with Insanity, signs of which have from time to time cropped up, it stands to reason that the ultimate prognosis must be much more unfavorable than in a healthily constituted person.

The primary importance of that congenital condition of the brain, which causes the greater liability, under precisely similar external conditions, of A than B (in the first instance, determining the occurrence of an attack of Insanity) must be constantly kept in view.

This, whether hereditary or not, must be regarded as the *fons et origio mali;* and is no more mysterious than the tendency in

one person to consumption, and in another to gout. As it cannot be expected that this predisposing susceptibility shall be extinguished by an attack of Insanity, a well-marked insane diathesis must be taken into account in estimating the probability of a relapse. The prognosis must be greatly influenced by the future surroundings of the patient after he recovers.

Idiocy and Imbecility, although modern science and humanity have done much to educate idiots and imbeciles, must remain at the bottom of the scale, because they involve congenital defect in, or arrested development of, the centre of the nervous system essential to the operations of mind.

Dementia is, with rare exceptions, incurable. In Senile Dementia there may be returning gleams of intelligence, but no recovery. Acute Dementia is not unfrequently recovered from.

General Paralysis, while admitting of remissions which promise recovery, is the most unfavorable form of Insanity as regards mental recovery, and the most fatal. Hence, hesitation in speech, tremor of the tongue, an altered gait, are the worst signs that can manifest themselves in the invasion of mental disease.

Epileptic Insanity offers little hope of really permanent recovery. The exceptions are so few that it may be regarded as almost incurable.

Apoplexy and Paralysis are very unfavorable complications.

Perversion of the moral sense from disease must always be regarded unfavorably, except when arising in puerperal states, and in those temporary conditions which arise from sympathy with disorder of a distant organ, as in the development of the reproductive organs at puberty, or from so simple a cause as ascarides. It is important to ascertain the constitutional mental tendencies or character, for while a change of disposition is a proof of disease, the intensifying of naturally vicious traits of character may also be the result of increased diseased activity, and such a substratum as exists in these cases, renders a radical cure hopeless.

Delusional Insanity is not a hopeful form of Insanity. Monomania, in the sense of a deeply rooted delusion or false

conviction, in respect to one class of subjects, generally resists treatment obstinately. Still more unfavorable are the delusions of grandeur and riches. Hallucinations and Illusions of one, and especially of all the senses are unfavorable, except when due to an acute or febrile condition of the system.

Insanity induced by intemperance is unfavorable, and, when it does not assume an incurable form, manifests a strong tendency to relapse after recovery.

Acute Mania is in a large proportion of cases recovered from.

Acute Melancholia, if cases which never reach an asylum are included, is, at least, as frequently cured, but certainly in asylum experience it comes next in order.

Simple depression of Mind is not unfavorable, except in the decline of life.

Climacteric Insanity is not a hopeful form of mental derangement. Drink-craving frequently manifests itself at this period of life. Change of life, however, occasionally exercises a beneficial influence on those already insane.

Statistics clearly show that first attacks of Insanity occurring at or after 50, are much more rarely followed by recovery, than attacks of earlier life.

Hysterical Insanity is usually a favorable form of mental disease. Relapses are, however, frequent.

The condition of maniacal exhaustion is one of peril, and calls for a guarded prognosis.

Protopathic Insanity, as *e. g.* when due to sun-stroke or a blow, is much less curable than Deuteropathic Insanity.

Puerperal Insanity is, as a rule, very curable, unless it assumes a phrenitic character.

Alternations of excitement and depression, whether amounting to well-marked Circular Insanity or not, constitute a bad sign. Regular remissions cannot be regarded as favorable signs, although they do occasionally occur, in a more or less marked manner, in cases which recover. Experience certainly does not confirm the unqualified observation of Rush, that "remissions and intermissions of violent mental excitement

are always favorable." If by remissions, however, Rush simply means a change in the morbid symptoms, as opposed to a constant uniformity, he is no doubt correct in his opinion.

A fear of poverty, refusal to take food, a disposition to commit suicide, suspicions of persecution, or of poison being put in the patient's food, are unfavorable signs.

The Insanity of women is, generally speaking, more curable than that of men.

Recovery is more probable if early treatment is adopted. In proportion to the continuance of the disease is the improbability of a cure. Better that the disease should appear suddenly than come on gradually. When recovery takes place it is nearly always gradual. In the exceptional instances of sudden recovery, however, relapse does not appear to be more frequent.

The longer the period during which the causes exciting the attack have been in operation, the less probability is there of cure.

Insanity caused by a prolonged moral cause appears to be less curable than when induced by one acting suddenly upon the mind, provided, however, that the shock is not so great as to induce Dementia. When a moral and physical cause combine to bring on an attack of Insanity, as in the case of vicious habits, the prospect of recovery is not favorable, and such attack is still more unfavorable when fixed ideas are present or the conversation is unconnected. Insanity due to moral causes alone is considered by Guislain to be much more curable than when arising from physical causes.

With each attack of Insanity the probability of permanent cure diminishes; at the same time many of the patients who relapse repeatedly recover.

In obscure cases dirty habits often indicate organic disease, but in ordinary Mania they need not be regarded unfavorably. Cleanliness is always a favorable sign of returning health.

The recovery of physical health unaccompanied by the return of mental sanity, is unpromising as regards the ultimate recovery of the patient. Stoutness under such circumstances is frequently the harbinger of Dementia. The relation between the weight-curve and mental states has recently received much

attention. A case is reported in which "six times within three years, periods of excitement occurred which always gave place to symptoms of Melancholy. On the development of the former the bodily weight always began to rise, and reached its maximum when the exaltation was at its highest point. On the decrease of excitement, the weight of the body began to fall till it reached its minimum at the time of the most signal depression" (See 'Journal of Mental Science,' January, 1873, p. 614). On the other hand, maniacal excitement is frequently seen to be accompanied by the losing of flesh, and the prognosis is assuredly bad.

Restored affections are, perhaps, the strongest proof of returning mental health—are, in fact, to that extent, the restoration of sanity itself. The same observation may be made in regard to the return of proper delicacy of feeling in women.

Return to accustomed tastes or habits is always to be hailed as a favorable indication even if in so trivial a matter as a relish for gingerbread, which has been known to be the first sign of returning sanity.

Return to the mode of speaking, natural to the person affected with Insanity, is sometimes the first indication of recovery. It is said that Willis, observing George III speak in the rapid manner that was customary with him when well, declared he would recover. The case of a young man is related by Rush, who stammered before he became insane, ceased to do so when he was in the Pennsylvania Hospital, but began to stammer again when he showed signs of amendment.

The return of suspended secretions is a favorable indication. This applies especially to menstruation. It is not the less true that patients who are regular, are more instead of less excited on the return of the period. Nor, again, can it be denied that menstruation often returns without being accompanied by the restoration of mental health; sometimes even when a case is about to pass into hopeless Dementia. Certainly there is nothing like a uniform rule in this matter.

Profuse secretions are not unfrequently critical, but (unlike Esquirol, who devotes a long chapter to the subject) we rarely speak of the *crises* of Insanity. Thus, extraordinary perspiration sometimes marks restoration of mental health; at another

time cutaneous eruptions. But the term is vague, and in no instance are we in more danger of putting the cart before the horse. It implies as ordinarily used, that the evacuation cures the disease—allows it to escape, in short; whereas, in the majority of cases, the restoration of the natural secretion, in abundant quantity, is merely one sign of returning physical and mental health.

A copious flow of tears is often a very good sign, but must not be confounded with the emotional sensibility which indicates deep-seated disease of the nerve-centres. These are as distinct as the rush of the mountain torrent after the removal of some obstruction, and the stream caused by the bursting of a water pipe.

Contrary to an old popular idea,* Pregnancy appears to exert an unfavorable influence upon mental disorder. A case of periodic Mania (monthly) is, however, recorded, in which the symptoms were suspended during gestation and returned afterwards. The cases, however, at our command are too few to admit of a decided conclusion. Parturition occurring in those who have become insane during pregnancy, does not appear to excite any influence whatever in some cases, while in others the influence is bad.

In the early stage of Insanity, restoration of sleep is a very favorable, and prolonged insomnia an unfavorable symptom.

The occurrence of another disorder in the course of the disease, is sometimes accompanied by an amelioration or cure of the mental disorder.

Mania with homicidal impulses is generally an unfavorable form. Dr Ray observes that "there are unquestionably some circumstances in these cases well fitted to reduce the proportion of recoveries somewhat below the average. In most, the homicidal act is the offspring of strong delusions, indicating, probably, the severest grade of cerebral disorder short of obvious organic lesion, and in those cases where the act was prompted by some sudden impulse, or that confusion and perversion of ideas common in Acute Mania, it is not improbable that every restorative movement may be repressed by the perpetual consciousness of the terrible deed. Still, there are

* See a letter written in 1813, contributed by the writer to the 'Journal of Mental Science' in 1870 (p. 250).

recoveries in this form of Insanity—enough to deter us from giving an unfavorable prognosis in every case."*

Contrary to the experience of Dr Stewart at the Crichton Institution, Dr Ray considers that, other things being equal, "patients with good intellectual endowments, recover in larger proportion than those less happily constituted"—the greater the mental energy, the greater the recuperative power of the Mind.

* "On the Prognosis of Insanity" ('Amer. Journ. of the Medical Sciences,' Oct., 1870).

CHAPTER III.

OF THE VARIOUS FORMS OF INSANITY.

Preliminary Observations.

Before entering upon the study of the various forms of Mental Disorder and Defect, the student is strongly recommended—

I. To have clearly before him the Physiology of the Nervous System in general, and of the Encephalon in particular, as comprising the centres of Sensation, Motion, and the Intellectual, Emotional and Volitional powers; combining with this the important truth that the brain, as well as the spinal cord, is susceptible to reflex action.

The physiology of the nervous centres must, along with other sources of knowledge bearing upon the seat and causes of Insanity, be constantly kept in view in the study of acquired or consecutive mental disorder.

II. To adopt as a guide some system of classification of the mental powers in health; for as the mental faculties are functions of the Cerebral Hemispheres, they must be studied as manifested in health, and hence Psychology, in its general outlines, must be mastered.

In opposing, as we have always done, the pursuit of Metaphysics in connection with Insanity apart from the study of cerebral physiology, as barren and unprofitable, we do not undervalue the importance of clearly recognising the manifestations of a healthy mind and distinguishing them, as far as practicable, according to their characteristic features. Otherwise, how is it possible for us to compare healthy and unhealthy states? How can we speak of a morbid condition of the emotions, if we do not form some previous idea of what a healthy emotion is? Of defective intellect if we attach no definite notion to what the Intellect is in its ordinary manifestations? Or, again, how can we comprehend the departure

from the healthy working of the laws of mental action unless we understand what these laws are ?

Metaphysicians have very generally recognised the two-fold division of the mental powers into the Intellectual and the Affective. Plato tells us that he distinguishes two principal faculties—that of *Feeling* and that of *Thinking*. Among modern metaphysical writers this distinction has no less been admitted and enforced. Thus, Reid's analysis of the mental faculties comprised two great divisions, the *Understanding* and the *Will*, in which latter he included the appetites, passions, and affections. And Stewart, although he added a third class of faculties (those which belong to man as a member of a political body), did not the less admit the foregoing distinction. Dr Thomas Brown, again, divided the internal affections of the mind into two orders —"intellectual states of the mind, and the emotions." And his editor, Dr Welsh, truly observes, that "Intellectual states and emotions are felt by us as generically different, and must always thus be felt by us."

The further subdivision of the emotions into the higher sentiments, and the propensities, is to some extent insisted upon by the Scotch metaphysicians. Mr Morell, in his 'Speculative Philosophy of Europe,' more distinctly recognises a threefold division of the powers of the human mind. Thus, in combatiug the phrenologists, whose triple division is well known, he observes, "We did not require any phrenological aid to convince us that the *animal passions*, the *moral feelings*, and the *intellect*, present three different classes of phenomena, which cannot be perfectly resolved into each other." Lewes, in his 'Biographical History of Philosophy,' observes that "the subdivision of the affective faculties into propensities and sentiments" has passed into general acceptance. By Fichte, the Intelligence, the Feelings, and the Will, were regarded as essentially distinct. And Bain, in his excellent work on the 'Senses and Intellect,' concludes that the most convenient, as well as the most truthful division, is into "the Intellect, Emotion, and Volition." Dr Copland adopted, as the most practically useful classification of the mind—the Intellectual Powers; the Moral Affections; and the Instinctive Desires and Feelings, or "those strong and immediate incentives to action in the lower animals, which are controlled by reason in man."

Whether the student adopts a division of the mental functions into the Intellect, the Emotions, and the Will, or into the

Intellect, the Feelings (including the Moral Sentiments), and the Propensities, otherwise called Appetites, Desires, or Instincts, he will possess something like a classification of mental symtoms, which will prove useful to him as a groundwork for the study of Insanity. If he enter upon this study entirely ignorant of mental science, he may be an anatomist, but he cannot be a cerebral physiologist. These functions, disordered, constitute the symptoms comprised under Insanity—the presence or occurrence of which is the occasion of the whole inquiry—the indications during life of the disorder of the functions, and, therefore, of the organ upon which they depend for healthy action. When the latter of the above-mentioned classifications of mind is adopted, the position the Will occupies will be this :—A certain state of the mind, whether as a primary feeling or a recollected feeling exciting a desire, determines voluntary action—actuation—conduct. "Volition," says Bain, "involves Feeling and something more; that something being *action* or the putting forth of power to some end." While distinguishing the Will from the Intellect and Emotions, Bain refers "the most simple and primitive volitions to the same class as the Appetites and Instincts." He regards the ends of voluntary action as "identical with our various emotions." With him, volition expresses all human action, so far as it is governed by motives. "Desire," he observes, "is a form or aspect of the Will." When action takes place without any antecedent desire, it is usually of an involuntary, reflex character, although Bain contends that such an action as (for example) withdrawing the hand from a painful scald, is an example of pure volition.

Under Intellect are included Memory, Imagination, Reason, Judgment. Ideas are formed from Perception—the perception of the objects of the external world. Object-consciousness and Subject-consciousness are so closely united that it is difficult to separate them—as difficult as to separate Sensation and Ideation. Sensorial Perception passes imperceptibly into Intellectual Perception.* The importance of testing the condition of these faculties in a case of alleged Insanity is obvious.

The following grouping of the Emotions will prove an aid to the medical psychologist in comparing healthy and morbid emotional states.

* On this subject the writer may be allowed to refer the reader to his work on the 'Influence of the Mind upon the Body,' pp. 27, 49.

Joy and its various forms and synonyms—Contentment, Cheerfulness, Mirthfulness, and the intenser states of Rapture and Ecstasy. It is opposed to Grief or Sorrow, and their synonyms—Sadness, Affliction, Distress, Discontent, Melancholy.

Hope, the antithesis of Despair.

Self-esteem, culminating in Pride. The reverse of Humility, Modesty, Self-abasement, and Remorse.

Love of Approbation, or Vanity, though a form of self-esteem, has very different characters, and may even degenerate into the opposite of self-esteem—Cringing.

Courage, sense of Self-possession or Confidence. The opposite of Fear, Fright, Horror, with the minor form of Anxiety. When epidemic, Fear assumes the Panic form. Allied to Suspicion.

Calmness: the reverse of Anger and its aggravated phases of Rage, Fury, Wrath, or what is commonly understood as Passion, leading to Scorn and Contempt.

Love, leading to Veneration, Adoration, and Reverence. Opposed to Hate, and Revenge.

Benevolence, Compassion, Pity. The antithesis of Malevolence and Misanthropy.

For the laws of mental association, suggestion and reproduction, usually comprised under the four heads of Contiguity, Similarity, Compound Association, and Constructive Association, the reader is referred to Bain's work 'The Senses and the Intellect.'

III. To take a general view of Disorders of the Nervous System, both from a symptomatological and pathological standpoint, in order that the student may see them as parts, which they really are, of a great whole.

Thus, he may commence with Disorders of Sensation, not involving Insanity, and examine them in their various forms, Anæsthesia, Pseudæsthesia, and Hyperæsthesia, including morbid action of the special senses.

Then he may take disorders of Motion, as manifested in ordinary Paralysis, Loco-motor Ataxy, Convulsions, &c.

Further, he must not overlook those disorders which result from the morbid action of the nervous system upon Nutrition and Secretion, in addition to those marked by sensory and motor phenomona.

IV. Lastly, the student and alienist physician will find it essential to employ, in taking notes of cases, some definite

form. In general, our practical knowledge of the characters of mental disorder must, like those of other diseases, be derived from two grand sources—the subjective and the objective. The former is exhibited in what insane persons tell us of themselves in their conversation and autobiographies, and is highly instructive; the latter includes the phenomena observed by ourselves as spectators of the disease. Much information may be obtained by subjecting the patient to processes of inquiry, by way of investigation and experiment calculated to test his actual mental condition, not only in regard to what he *does* manifest, but also in regard to what he *can* manifest. This latter mode of determining the patient's condition we are constantly resorting to, almost unconsciously; but it is one which M. Falret has laid especial stress upon, and is, doubtless, one which admits of, and deserves much more systematic cultivation than it has hitherto received. From all these various sources, therefore, we must derive our information of the different forms which mental disorders assume; by a careful observation of bodily symptoms; by eliciting the actual condition of the mental powers of the patient; by systematic tests (percussing the patient, as Guislain would say); and by ascertaining his sensations.

In examining a patient's bodily and mental state, help may be obtained from the ophthalmoscope, sphygmograph, æsthesiometer, Galvanism, Faradisation, &c. The following Form was drawn up by the Committee of the Medico-Psychological Association in 1869, as adapted for a Case Book:—

CASE BOOK.

NAME — ADMITTED

AGE AND SEX — STATE AS TO MARRIAGE — EDUCATION

WHERE FROM — OCCUPATION — RELIGION

History.

CAUSATION
- Previous attacks — Where treated.
- Hered. history — Disposition and habits in health
- Predisposing
- Exciting

DURATION OF DISEASE

FIRST SYMPTOMS
- Mental
- Bodily

RECENT SYMPTOMS
- Mental
- Bodily
- Suicidal — Dangerous

Other facts

State on Admission.

MIND
- Exaltation
- Depression
- Excitement
- Enfeeblement
- Memory
- Coherence
- Can answer questions?
- Delusions
- Other abnormalities

BODY
- Appearance
- Colour of hair — Colour of eyes
- Muscularity — Fatness
- Nervous System
- Reflex action — Pupils
- Special Senses — Retina
- Lungs
- Heart — Pulse
- Other organs
- Tongue — Appetite
- Urine, Sp. gr. — Urinary deposits
- Menstruation — Temperature
- Height — Weight

NAME OF DISEASE — GENERAL BODILY STATE

DATE	Temperature		Pulse		Weight	*Progress of Case.*
	Morn.	Evg.	Morn.	Evg.		

Memoranda to be put in beginning of Case Book.

HISTORY.

Previous Attacks.	Number, character of each.
Hereditary History.	Age of parents, relationship of parents or grandparents, health of same, family diseases or peculiarities—consumption, epilepsy, drunkenness.
Predisposing Causes.	Drunkenness, overwork, character of vocation or habits. Food, tobacco, tea, infantile diseases, adult diseases. Catamenial irregularities, marriage, children, difficult labours, miscarriages, lactation, &c.
Exciting & Proximate Causes.	Diseases of brain, emotions, blows on the head, drinking bouts, fever, poisons, over-sexual excitement, childbirth.

STATE ON ADMISSION MORE FULLY AND SYSTEMATICALLY ARRANGED.

A.—Bodily Condition.	*a*, Height. *b*, Weight. *c*, Temperature. *d*, Colour of hair (baldness). *e*, Muscularity. *f*, Fatness. *g*, Expression of face and general appearance. *h*, Any special injuries or wounds to be noted.
B.—Vegetative Functions.	*a*, Digestive—Tongue, stomach, appetite, condition of bowels. *b*, Dermic—Condition as to moistness, eruptions, and other abnormalities. *c*, Circulatory—Pulse, cardiac murmurs, flushing of face, or inject. of conjunctiva. *d*, Respiratory—State of lungs, breath, rapidity of respiration. *e*, Glandular—Exam. of urine, state of liver, spleen thyroid, &c.
C.—Reproductive Functions.	*a*, Abnorm. of penis or testis in men—masturbation, syphilis, &c. *b*, In women—catamenia, discharges, syphilis, pregnancy nursing, &c.
D.—Nervous System.	*a*, Paralysis, epilepsy, catalepsy, hysteria, and other abnormalities unconnected with the special senses or mental functions. *b*, Special senses—

1.—Sight—*a*, Colour of iris.
b, Shape and size of pupils.
c, Condition of retina.
d, Vision.
e, Knowledge of colour.
f, Hallucinations.
g, Illusions.

2.—Hearing—*a*, External ear.
b, Deafness.
c, Hallucinations.
d, Illusions.

3.—Smell—*a*, Any abnormality of nose.
b, Sense of smell.
c, Hallucinations.
d, Illusions.

4.—Taste—*a*, Sense of.
b, Hallucinations.
c, Illusions.

5.—Touch and nervous sensibility—
a, Sense of pain.
b, Reflex action.
c, Hyperæsthesia.
d, Illusions and hallucinations, including those of internal organs.

E.—Mental Symptoms. *unconnected with the special senses.*

a, Apparent consciousness.
b. Identity.
c, Attention.
d, Coherence of language.
e, Memory—*a*, for recent events; *b*, for past ditto.
f, Exaltation or depression of spirits.
g, Excitement of manner.
h, Habits and propensities (filthy, dangerous, suicidal, destructive, indecent, &c.).
i, As to sleep.
j, Delusions—not being hallucinations or illusions.
k, Other abnormalities.

SECT. I.—Idiocy, Imbecility, and Cretinism.

We now proceed with Idiocy—a condition of defective development—(ἴδιος *privatus*), in which the subjective symptoms of the patient are ascertainable in only a very limited degree.

Synonyms.—Ἰδιώτης* (Gr.); *Amentia* (Lat.); *Idiotie* (Fr.);

* Although some derive idiot from ἴδιος, in the sense of being deprived of something, others, with more reason, derive it from a private man, as distinguished from one holding office, which an idiot mind could not do. Not to be able to enter public life was, with a Greek, synonymous with mental weakness. It implied ignorance.

Idiotismò (Ital.); *Congenitale* or *angeboren Blödsinn* and *Dummheit* (Ger.). Vogel, Sauvages, and others, speak of Idiocy under the Latin terms, *fatuitas, imbecillitas, amentia.*

Definition.—Esquirol was the first medical writer who very clearly defined the term, and, unlike Pinel, restricted it to a congenital defect." "Idiocy," he observes, "is not a disease, but a condition in which the intellectual faculties are never manifested; or have never been developed sufficiently to enable the idiot to acquire such an amount of knowledge as persons of his own age, and placed in similar circumstances with himself, are capable of receiving. Idiocy commences with life, or at that age which precedes the development of the intellectual and affective faculties, which are from the first, what they are doomed to be during the whole period of existence." Subsequently, he says, "Dementia and Idiocy differ essentially; otherwise, the principles of every classification are illusory. . . . A man in a state of Dementia is deprived of advantages which he formerly enjoyed. He was a rich man, who has become poor. The idiot, on the contrary, has always been in a state of want and misery."

This is the definition of Idiocy usually adopted. Happily, however, the education of this unfortunate class has, in modern times, so far modified its correctness, that it would no longer be right to speak of the faculties of the idiot being doomed to remain stationary, or to say (as Esquirol proceeds to do), "the condition of a man in a state of Dementia may change—that of the idiot is ever the same." We shall only, therefore, adopt Esquirol's description, so far as it represents Idiocy as a congenital deficiency of the mental powers.

Lord Coke's definition is substantially the same as Esquirol's; "one who from his nativity, by a perpetual infirmity, is *non compos mentis.*"

Another legal definition of the word is contained in the following:—"He that shall be said to be a sot and idiot from his birth, is such a person who cannot count or number twenty pence, nor tell who was his father or mother, nor how old he is, so as it may appear that he hath no understanding or reason what shall be for his profit, or what for his loss; but, if he have sufficient understanding to know and understand his letters, and to read by teaching or information, then it seems he is not an idiot."*

* 1 Fitzherbert, 'Natura Brevium,' 583, ed. 1652 (Shelford).

Symptoms and Classification.—So much for the definition of Idiocy. We will now consider its characters. These vary according to the degree in which the cerebro-spinal system is involved. In the lowest forms of Idiocy, the functions of even organic or vegetable life are ill performed; the idiot is in some respects below the plant; nutrition is most imperfect, and the power of reproduction *nil*. He would perish but for the assistance of others.

The functions of animal life are, to a greater or less extent, impaired; he may be scarcely alive to external impressions, or possess the power of executing spontaneous acts; in the lowest type, he may be blind, deaf, and dumb; the dejections are involuntary; he is, indeed, nothing more than "a living, dead man."

The degraded condition of the idiot is very clearly displayed in his vacant stare, in the thick everted lips, the slavering mouth, the irregular, crowded, and decayed teeth;* the gums often swollen, the frequent strabismus, the ill-formed, generally large ears, and the absence or defect of one or more of the senses—sight, hearing, speech, taste, or smell. His staggering walk is also very striking; yet he seems as if he must be in motion, if he is on his feet; and, even if seated, he often has a difficulty in balancing himself. There is a general want of symmetry; the limbs are frequently contracted or paralysed; the fingers are long and slender; the grasp of the hand feeble or powerless, while the extremities are often cold and bluish from imperfect circulation. Psychologically, we may regard the idiot, with M. Séguin, as badly served by imperfect organs; the instincts limited, but imperious; sensation and reflex action taking the place of attention, comparison, judgment, memory, foresight, and will.

Esquirol based his division of idiots upon the power of speech they possess. In the *first* degree of idiocy, properly so called, the idiot, according to him, uses merely words and short phrases; idiots of the *second* degree, articulate only monosyllables or certain cries; finally, in the *third* degree of idiocy, there is neither speech nor phrases, words nor monosyllables.

* Mr Hutchinson, whose laborious investigations have established the existence of a very important relation between the character of the teeth and hereditary syphilis, examined, in company with the writer, the teeth of the idiots at the Earlswood Asylum, but did not find the characters referred to, in any considerable number of cases.

Doubtless these divisions are mainly true to nature and practically useful; it seems, however, more in accordance with our present knowledge of the nervous centres, to regard the various stages of Idiocy, according to the degree in which the reflex and volitional functions are manifested; and, occasionally, we meet with idiots who can talk, but who, in other respects, belong to a very low type. The parrot can be taught to articulate, but in intelligence is far below the elephant, which cannot.

We may, from this point of view, speak of three classes of idiots.

First, those who exhibit nothing beyond the reflex movements known as the excito-motor.

Secondly, those whose reflex acts are consensual or sensori-motor, including those of an ideo-motor and emotional character.

Thirdly, those who manifest volition—whose ideas produce some intellectual operations, and consequent will.

Dr Ireland, Medical Superintendent of the Institution for Imbecile Children at Larbert, near Falkirk, while not rejecting Esquirol's classification, has proposed an additional one, founded upon bodily states or causes which we shall shortly describe in detail. (See p. 157, and for Dr Down's classification p. 156.)

As an illustration of the first class, we may refer to a very interesting case mentioned by Dr Carpenter, in his 'Human Physiology' (4th edit., p. 360), on the authority of the late Mr Wallis, of Hull. Although reared to the age of ten years, this idiot never, from the time of his birth, exhibited any distinct indication of consciousness; there was no apparent malformation of the brain, yet no movements were ever witnessed which seemed to proceed from any higher centre than the medulla oblongata. Food had to be carried back into the pharynx in order to be grasped by the constrictors. An idiot boy at the Asylum for the West Riding of Yorkshire, aged twelve, swallowed his food without mastication. It returned from the stomach, however, was chewed, and re-swallowed.

An example of a very low form of idiocy has been given by Pinel, in his 'Traité Médico-philosophique sur l'Aliénation Mentale,' but it is, in some respects, of a higher grade than the preceding:

"One of the most singular and extraordinary cases which has ever been observed," he says, "is that of a young female idiot, eleven years old, whose skull I have figured, and who, in the form of her head, her tastes, her mode of living, seemed to approach to the instincts of a sheep. For the two months and a half she was at the Salpêtrière,

she exhibited an especial repugnance to meat, and ate, with avidity, vegetable substances, such as peas, apples, salad and bread; she only drank water, and manifested, in her way, a lively appreciation of all the eare which the attendant took of her. These demonstrations of feeling were confined to the expression of these two words, *bé, ma tante;* for she could not utter any other words, and appeared entirely silent, solely from wanting ideas; otherwise her tongue seemed to possess all its mobility; she was accustomed to exercise alternate movements of extension and flexion of the head, in supporting it (like a sheep) against the breast of her nurse, to testify her gratitude. Her back, loins, and shoulders were covered with long flexible hairs, from one to two inches in length, and which resembled wool in texture. In making efforts to get out of the bath, she would repeat, in an acute tone, *bé, bé, bé.* She would not sit, but lay on the ground, le corps roulé, et étendu sur la terre, à la manière des brebis."

It is observable that many idiots whose mental power is extremely deficient, have excelled in musical talents. In the instance of Quénau, an idiot at the Salpêtrière, it was necessary to dress her; when she attempted to speak, she uttered a hoarse cry, or a sort of articulate, jerking grunt, which she continued till she was understood. She comprehended, by means of a gesture, what was intended to be communicated to her, provided it had reference to nothing beyond the most common wants of life. Yet this idiot was a musician.

Dr Peacock has recorded in the Pathological Society's 'Reports,' for 1858-9, the case of a boy, eleven years of age, which possesses many points of interest.

He was born at the full period, but his mother, in the fifth month of her pregnancy, received a severe shock, after which her abdomen did not increase in size. Her parents were intelligent, and no member of the family was known to have been insane or imbecile. He was blind, micro-cephalous (the anterior fontanelle closed at birth); had convulsions during dentition; could not articulate sounds, or stand unassisted; the left arm was paralysed when about five. He distinguished his parents; his sense of hearing was acute; he could only swallow his food when cut into small pieces; and passed his evacuations in bed. The thighs were flexed on the abdomen, which was tumid; sternum prominent; chin resting on the breast; cyanosis from birth, not from malformation of the heart but from imperfectly expanded lungs. The brain after death was found to weigh 21 oz. or 3½ dr. avoirdupois, being, as Dr Peacock shows, less than half that of the average, and little more than half that of the smallest healthy brain, at eleven years of age. The cerebrum weighed 17 oz. 2¼ dr., and the cerebellum (with the pons Varolii and medulla oblongata) 4 oz. 1¼ dr. The lobes of the cerebellum, when *in sitû*, projected considerably beyond the cerebrum. The cerebral convolutions were very small; the sulci shallow; the ventricles greatly dilated with serum; the right hemisphere more atrophied than the left. The *falx cerebri* was entirely deficient in its anterior portion. Specific gravity of brain 1030; that of a healthy boy, aged eleven, was found by Dr Peacock to be 1039·6. Without its nerves the spinal cord weighed only 7 drs.

An idiotic female who died at the York Retreat, above seventy years of age, afforded an example of the third class;

her ideas produced some intellectual operations and consequent will.

The almost lady-like propriety which characterised her was remarkable, and was, in great measure, due to the excessive pains taken with her when young. Some would call this a case of congenital imbecility rather than idiocy; but she could never be taught to read or write. She was full of delusions about children; she imagined almost every day that she was in labour; and was generally actively engaged in chiding the children which, in imagination, she already possessed.

She died of ovarian disease. The brain was very small, only weighing 22¾ oz. (avoirdupois); the cerebrum 19½; and the cerebellum (with pons Varolii and medulla oblongata) 3¼. The weight of the brain, in the new-born infant, is stated by Tiedemann to be from 10 to 13¼ oz.; the smallest brain recorded by Solly weighed 19¾ (avoirdupois); and the next smallest, 22½ oz. And if we take the average weight of the female brain at 44 oz., and deduct 1 oz. for each decennial period after fifty years of age, we have, in the case at the Retreat, a brain about 20 oz. below the average weight, and 41¼ oz. below that of Cuvier's, which weighed 64 oz. avoirdupois. In this case, the membranes, with the exception of slight opacity of the arachnoid, were healthy, and not adherent; there was a little fluid upon and beneath the arachnoid; the vessels generally were empty. The thickness of the grey matter appeared to be fairly proportionate to the white; the convolutions were small, and the sulci shallow, especially superiorly; there was an unusually wide and deep division between the posterior and middle lobes; the corpora striata and optic thalami small, but healthy; the ventricles normal, fluid slight in quantity; the pineal gland large and sacculated like a hollow grape. The commissures and the septum lucidum were entire. The following are the measurements of the head:

Circumference	18·87 in.
From the root of the nose to the spine of the occiput ...	11·10 „
Antero-posterior diameter	6·62 „
Transverse „	4·75 „
Total	41·34 „

These contrast very strongly with the same measurements of Etty, the painter, a cast of whose noble head is in our possession:

Circumference	24·75 in.
From the root of the nose to the spine of the occiput ...	16·05 „
Antero-posterior diameter	8·75 „
Transverse „	6·37 „
Total	55·92 „

In the instance of the sheep-like idiot recorded by Pinel, the antero-posterior diameter, was 5·11 inches; and the transverse 3·58; the circumference is not given. The measurements of Quénau's head were as follow:—

Circumference	20·07 in.
From the root of the nose to the spine of the occiput...	11·33 „
Antero-posterior diameter	6·92 „
Transverse „	5·63 „
Total	43·95 „

The corresponding measurements of the famous "Aztec" boy, whom we have examined and can only regard as an idiot, were as follow :—

Circumference	13·25 in.
From the root of the nose to the spine of the occiput ...	7·75 „
Antero-posterior diameter	4·05 „
Transverse „	3·75 „
Total	28·80 „

It must not be concluded, from these examples of microcephalous idiots, that a small head is a necessary accompaniment of Idiocy. On the contrary, many idiots have large heads, leaving out of the question instances of hydrocephalus. Dr Parchappe has stated, as the result of very careful inquiry, that if there exists a general relation between the volume of the brain and the degree of intelligence, "facts are wanting to deduce rigorously from this relation the different degrees of intellectual and moral capacity." Of 100 idiotic heads examined by M. Belhomme, 84 presented more or less decided malformations of the forehead, occiput, and lateral portions. On bringing together a hundred well proportioned heads, he did not find one true idiot among the number. Desmaisons, in his 'Memoir on the Form of the Head in Idiots,' concludes that idiocy sometimes exists without any malformation; that it is impossible to fix upon any which is peculiar to idiocy, but that flattening of the posterior portion of the head is as common as that of the forehead. Dr Zillner, however, has more recently measured the *sutures* of the various cranial bones in idiots, and states that in their skulls the frontal bone is decidedly smaller than in those of non-idiotic persons. Gall laid it down as an axiom, that idiocy must exist when the head is not more than 13 inches in circumference.

When called upon to decide whether a child is idiotic, it is necessary to have the following among other points of inquiry prominently in view :—State of sensation, general and special (sight, hearing, smell, taste); the general aspect as regards

intelligence; the form of the head, whether microcephalic or hydrocephalic, or ill-shaped; the condition of the fontanelles; the ability to raise or support the head; the shape of the ears; the state of the teeth as to development and position; the presence of strabismus, and whether the eyes follow an object held before them, or are affected by light; whether capable of being amused; whether the hand can grasp your finger; whether the limbs, generally, have the amount of power usual at the age of the child examined; whether (if of sufficient age) it has begun to walk and talk like other children; and if too young to talk, the character of the vocal sounds should be particularly noticed.

The vaulted or V-shaped palate, although to be met with occasionally in degree at least, in non-idiotic persons, is so frequently observed in congenital idiots, as to form an important sign, and will often turn the scale in deciding between idiocy at birth and idiocy subsequently induced. (We have recently seen a patient at the Hanwell Asylum who presents this peculiarity in a striking degree, but, in Dr Rayner's opinion, the natural abilities are good. For reason, in favour of the position that "there is no necessary connection between a high palate and the mental capacity" see an article by Dr T. Claye Shaw in the 'Journal of Mental Science,' July, 1876.) In the Transactions of the Odontological Society,' 1872, Dr Down thus sums up the condition of the mouth and its appendages in cases in which they are affected in congenital idiocy: The thickness of the lower lip, the delay of dentition, premature caries of the teeth, the irregularity of dentition, the chronic inflammation of the gums, and buccal mucous membrane; the height,* angularity and want of symmetry of the palatal vault; the long, corrugated, and coarsely papulated tongue; and the hyper-secretion of saliva; while, common to congenital and non-congenital cases are, defect of mastication; want of co-ordination of the muscles of the tongue, and the slight development of the faculty of speech.

An attempt has been made to classify idiots, ethnologically. Caucasians, Ethiopians, Malays, Mongolians, are all to be found typified, according to Dr Down, among idiots. Of the last ethnic type, to which this physician was the first to draw attention, we have seen many striking examples, confirmatory

* Attributable to the narrowing of the palate, and not simply apparent from the approximation of the teeth.

of the following abridged description which he gives in the 'London Hospital Reports,' 1866; the hair not black as in the real Mongol, but of a brownish colour, straight and scanty; the face flat and broad, and destitute of prominence; the cheeks rounded and extended laterally; the eyes obliquely placed and the internal canthi more than normally distant from one another (the epicanthic fold often abnormally large); the palpebral fissure very narrow; the forehead wrinkled transversely, from the constant assistance which the levators palpebrarum derive from the occipito-frontalis muscle in the opening of the eye; the lips large and thick with transverse fissures; the tongue long, thick, and much roughened; the nose small; the skin has a slightly dirty yellowish tinge and is deficient in elasticity, giving the appearance of being too large for the body. This type occurs in more than 10 per cent. of cases; they are always congenital idiots; they have considerable power of imitation; they are humorous; they are usually able to speak; the co-ordinating faculty is abnormal, the circulation is feeble; the improvement which training effects is greatly in excess of what would be predicated, if one did not know the characteristics of this type; the life-expectancy is, however, far below the average and the tendency is to tuberculosis ('Observations on an ethnic classification of idiots'). Cases of this type have been reported by Dr A. Mitchell and Dr Fraser under the name of "Kalmuc Idiocy," in the 'Journal of Mental Science,' July, 1876.

Recurring now to Dr Ireland's classification,* we proceed to give it, along with the substance of his observations.

1. Genetous or Congenital Idiocy; 2. Microcephalic Idiocy; 3. Eclampsic Idiocy; 4. Epileptic Idiocy; 5. Hydrocephalic Idiocy; 6. Paralytic Idiocy; 7. Cretinism; 8. Traumatic Idiocy; 9. Inflammatory Idiocy; 10. Idiocy by deprivation, *i.e.* the loss of two or more senses.

1. *Genetous or Congenital Idiocy.*†—In these idiots hereditary predisposition is more clearly traced than in others. The following are the main characters of this class enumerated by Dr Ireland:—Often dwarfish; deformities common, especially a highly vaulted palate; teeth irregularly placed and subject to

* See 'On Idiocy and Imbecility,' by W. W. Ireland, M.D., 1877, and 'Journal of Mental Science,' Oct. 1872.

† Nearly 64 per cent. of 800 cases admitted into Earlswood by Dr Grabham were congenital ('Brit. Med. Journal,' Jan. 16th, 1865).

decay; deficient growth of finger-nails, clubbed-fingers; clubbed feet; squinting and rolling of the eyes. Cyanosis; deficient cardiac valves; lobulated form of kidneys.

Prognosis.—Under this class, the worst cases as well as those admitting of education, occur. Therefore, the usual tests of Idiocy, as to speech, intelligence, knowledge of number, power of attention, capacity for grasping, ability to fix the eye, &c., must be employed here. "The power of muscular motion, as shown in walking over the floor or across a plank, or in better cases of carrying a vessel full of water, is a surer test than that of tactile sensibility. Congenital idiots of the lower type are often very deficient in these respects. It is rare that cases where the circulation remains torpid, as indicated by feeble pulse, cold feet or hands, or other signs, make much progress in education and training. On the contrary, the prognosis is good where the child is active and vigorous, noticing things, where he has begun to speak before six or seven, and has got a firm grasp and a normal amount of tactile sensibility, and the faculty of attention is capable of being sustained. Most idiots seem to take up the idea of number with great difficulty; but this test is more useful in diagnosis than prognosis.

2. In regard to Microcephalic Idiocy* we have already given several interesting illustrations, but may add the measurements of a smaller head than any given, with the exception of the Aztec's. We have seen the patient in the Lancaster Institution, but the dimensions were obtained by Dr Ireland.

Circumference	$14\frac{1}{8}$ in.
From root of nose to spine of occiput . . .	$7\frac{7}{8}$ „
From ear to ear	$9\frac{7}{8}$ „
„ middle of forehead	$4\frac{1}{4}$ „
„ middle of occiput	4 „

The child, æt. 8, was healthy and well made, but little for his age; teeth good; hands and feet small. "He was very quarrelsome and unmanageable, biting and kicking when angry. If his nurse pretended to cry when he struck her, he would appear sorry. She thought him the most intelligent child among eight idiots of about his own age. If the other children struck him, he would fly at them. He was imitative, but inclined to steal; when caught stealing he seemed ashamed and turned red."

Prognosis.—We have seen a young woman at Earlswood whose head was the smallest in the establishment, but who was very quick and useful. Her powers, though, of course, exceed-

* See also "Report upon some Cases of Microcephalic Idiocy and Cretinism," by Dr Ireland, 'Edinb. Med. Journal,' 1875.

ingly limited, were, so to speak, healthy so far as they went. This accords with Dr Ireland's observation, that "such cases improve under training, and have more physical and moral energy than is common with idiots of other classes."

3. In this class, Idiocy succeeds to infantile convulsions, chiefly during dentition. That so many children have teething fits who do not become idiotic, may be accounted for by regarding them as the exciting causes which develop a certain predisposition; or both convulsions and idiocy may be regarded as the results of a common morbid cause.

Prognosis unfavorable. The child, although motion and sensation (general and special) are uninjured, is capable of very little education.

Of thirteen cases studied, six were taught to work a little with their hands; eight were mutes; three articulated imperfectly. Of the remaining two who could speak, one girl could be much improved. She first had fits when six weeks old, and nearly died, but they never returned. She was fourteen when she entered the Larbert Institution (1870). Her progress in reading was slow, but in learning to work, rapid. Along with attainments in sewing, knitting, and household work, her general intelligence has greatly improved.

4. After quoting Dr W. A. F. Browne's opinion that the prognosis in this class, that of Epileptic Idiots, is as favorable as in other classes of Idiocy, if not more so, Dr Ireland says (and we think with reason) that, in his mind, "whatever may be the cause of the epilepsy, its association with Idiocy leads to the presumption that a lesion has been produced in the brain and spinal cord not likely ever to be effaced;" but he does not deny the possibility of the cure of epileptic cases. In his experience, however, while they generally present "a certain fallacious amount of intelligence, this intelligence does not appear to be much improved by training. If, during the intervals between their epileptic seizures, they learn anything, a new attack is apt to erase it from their memory; they are generally wild and intractable, and, indeed, seem to be on the boundary between Imbecility and Insanity."

5. In twelve *hydrocephalic* cases the size of the head, although large, did not exceed twenty-four inches in circumference. Occiput sometimes flattened. Palate, not vaulted. Dulness of touch and deafness not uncommon in this class. While hydrocephalus may be suspected when the head is very large, it does not follow, when the head is of normal size, or even small, that there has not been hydrocephalus in childhood. A case is

mentioned in which hydrocephalus was not ascertained till at the *post mortem*, when seven ounces of fluid were found in the lateral ventricles, and two ounces in the sac of the arachnoid.

Prof. Albers, of Bonn, says that mental obtuseness and paralysis indicate effusion in the former, and restlessness and mental derangement in the latter locality. Dr Ireland states, as regards *prognosis*, that when the hydrocephalus is moderate and is stationary, there is considerable capacity for improvement. "Some have been taught to work, others to sew and read. The prognosis is graver when convulsions have supervened on the original malady," but the following case is recorded :

A patient had fits during teething (which returned when four years of age), who had the hydrocephalic head, and became deaf, but who nevertheless "has now been taught a number of figurative signs, and also to spell on his fingers; and although he has the additional disadvantage of obscurity of sight, having dimness of the cornea resulting from ophthalmia, his progress has been as well marked as that of any pupil in the establishment. A few months ago I was introduced to the governess of a deaf and dumb school, who had a well-marked hydrocephalic head. She was quite deaf, but the nature of her duties is a sufficient proof that she had retained more than average mental vigour,"

6. Of six cases of Paralytic Idiocy coming under Dr Ireland's notice—

One, a girl, æt. 9, was improving mentally, the paralysis, which was caused by a fall when three years old, remaining the same. The second a girl, æt. 7, had fits as well as paralysis (hemiplegia), which was getting rather worse, while the mind became brighter. The third was a boy, æt. 9, the palsy dating from the second year. Right arm and leg affected, both as regards motion and sensibility; nearly blind at the same time, but sight afterwards improved. Disposition tractable. The fourth case, a boy, æt. 8, was, on admission, deaf and partially paraplegic. Walk difficult; improved in general intelligence; learnt to copy striking peculiarities in other people's handwriting, and to sew and knit. Died of anasarca, the sequel of scarlet fever. The fifth case, a boy, æt. 9, very feeble, was stated to have been twice severely ill from threatened hydrocephalus, and to have had one side weak. Died of gastric fever. No progress observed during four months he was in the house. The sixth case, a boy, æt. 11; hemiplegia from eighth month; sensation as well as motion diminished; articulation deficient. Grasp of left hand slowly returning; learning to read and write; extremely willing to learn; progress very gratifying.

As to *prognosis*, Dr Ireland's general conclusion is that such cases improve mentally rather than physically.

7. *Cretinism*.—For the description of Cretinism, see *postea*.

8. Under the head of Traumatic Idiocy are comprised cases due to injuries to the embryo child by attempts at abortion, and by damage done during parturition by contracted pelvis and the use of forceps. These may cause concussion, compression, hæmorrhage from the meninges, and destruction of the grey or

From a Photograph.

West, Newman & Co. lith.

Portraits of Seven Idiotic Brothers & Sisters

white cerebral substance. "Sometimes the injury to the mental power is permanent, sometimes it disappears more or less slowly; in some cases a trifling injury to the mental power is permanent, sometimes it disappears more or less slowly; in some a trifling injury causes grave disorders; in others, what appears to be a great injury leaves no visible effects behind. Hereditary predisposition has, no doubt, much to do with this."

The following case is given:

K. N—, æt. 13, head small, narrowing towards vertex. He was the first child; mother sixteen years old at his birth. Born at full time, and delivered with forceps. The marks of forceps were still visible on right temple, where there was a spot destitute of hair. The infant could not suck for the first week. He had three fits a short time after birth, and a great many more when three months old. Has had no fits for three years. He began to walk at three years; can only speak a few words, but understands to a limited extent what is said to him; knows he can get something for money; use of hands deficient; good natured; apparently healthy. The mother, a healthy looking Irish woman, had five other children, all delivered by the forceps. They are all healthy, and said to be of average intelligence.

9. *Inflammatory Idiocy.*—Dr Ireland says he has met with few cases of Idiocy which he could clearly trace to inflammation of the brain not due to external injury.

A boy, æt. 10, had brain fever with fits when three years of age. It is stated that he possesses all his senses, and normal sensibility, and is learning to read and write.

A girl, æt. 12, had brain fever, with sloughing of the internal ears, causing deafness, when eight years old. Although this was set down as the cause by the family, it was found she was always peculiar, and she had an imbecile uncle.

10. Idiocy by deprivation, *i. e.* by being deprived of two or more of the principal senses. Dr Ireland refers in illustration to the cases of James Mitchell, born deaf and blind, whose eyesight was restored by an operation; Laura Bridgman, blind and deaf, smell and taste being also much impaired; and Meystre, blind and deaf. "Deficiency of sight and hearing is not uncommon with idiots, and forms a very serious bar to instruction. In one case, a boy who was sinking into an extremely obtuse condition, from having become deaf and dim of sight, had his mental powers and faculty of expression aroused by being taught figurative signs and to spell on his fingers."

Dr W. A. F. Brown, recorded in the 'Journal of Mental Science,' October, 1862, the particulars of a family of idiots. The instance is so remarkable that we give, with his permission, the Illustration which accompanied the description.

The family consisted of—

I. Agnes W—, æt. 71, affectionate, especially to Thomas; quiet, inoffensive, industrious, speaks indistinctly. First row, first on right.

II. James W—, æt. 69, affectionate, childish, confused, excitable, does nothing. Behind Agnes.

III. Helen W—, æt. 65, affectionate and attentive to brothers and sisters, tractable, willing and useful as a worker in scullery, neat in dress, speaks intelligibly First row, second on left.

IV. David W—, æt. 56, indifferent to brothers and sisters, passionately fond of washing stockings and coarse articles and of assisting the female servants, will not work in garden. First row, second on right.

V. William W—, æt. 53, affectionate to brothers and sisters, will work in garden under gardener, but will not wash, cannot speak intelligibly. Behind David and Helen.

VI. Thomas W—, æt. 51, affectionate to sisters, indifferent to brothers, quarrels with James, occasionally violent, displays much interest in changes in establishment, and worked in garden until he lost the use of his right hand. First row, first on left.

VII. Mungo W—, æt. 47, indifferent to brothers and sisters, sometimes speaks to James, solitary and taciturn, works laboriously in garden. Behind Thomas.

These had, besides, a brother who disappeared and was supposed to have been drowned in a quarry, another imbecile sister, still alive, and two brothers and one sister who were healthy. No mention is made of hereditary taint.

Imbecility.—Some writers have restricted the use of this term to the loss of mental power supervening in infancy, others have applied it indifferently to a congenital and infantile condition, but all agree in employing the term to denote a minor degree of mental deficiency than Idiocy.

When Imbecility is present from birth, the sensitive and intellectual faculties are somewhat developed; sensations, ideas, and memory, as well as the affections, passions, and even inclinations, exist, but only in a slight degree; such think, feel, and speak, and are capable of acquiring a certain amount of education. (Esquirol.)

Some imbeciles know those who are about them, are affectionate to their friends, but are often passionate, and are very likely to have a strong tendency to theft. They are equal to the performance of many of the ordinary duties of life, and are able to take care of themselves.

Others display considerable shrewdness, and are constantly indulging in jokes; they pass for half-witted people, whose droll behaviour and ready repartees create amusement. From this class, the court-fools of antiquity and mediæval times were derived. Unfortunately, there are not a few imbeciles who are

dangerous to society; they are sometimes prone to incendiary, and still more frequently to homicidal acts. This is the case also with true idiots. Gall relates the case of an imbecile, who, after killing two of his brother's children, went to the father with an expression of delight, and told him what he had done. Instances occur, on the other hand, of the presence of considerable moral sensibility, in association with intellectual deficiency. Rush speaks of a man without a spark of intelligence who devoted his life to works of benevolence. This, however, is of much rarer occurrence than the absence of intellectual power coincidently with the excessive action of animal propensities.

Hoffbauer divided imbecility into three classes, according to the extent to which the mental faculties are impaired. In the *first*, the individual is incapable of forming a judgment on a new subject, however simple it may be. He can judge very well, however, regarding subjects which are familiar to him; his memory is, of course, very weak, although he observes a certain routine of occupation with scrupulous exactness. He is not accustomed to talk much to himself. He is liable to sudden paroxysms of anger.

The subject of the *second* degree is even less able to judge and act, in regard to his accustomed occupations. He is exceedingly confused, in regard to the place in which he is and the person with whom he converses, and is very generally at fault in regard to his ideas of time.

In the *third* degree of Imbecility, there is more reason to apprehend danger from the individual affected with it; for he has delusions of the evil intentions of others, and is not only passionate, but suspicious and misanthropic. He frequently talks to himself. Thinking aloud, however, is no proof of imbecility.

Dr Prichard inclines to the use of similar divisions, and of others, still more refined, to assist the judicial questions which arise in connection with Imbecility. We think, however, that a more detailed division than that to which we have referred, would only confuse the reader by its minute distinctions.

Cretinism.—First, as to the derivation of the word. Some, including Fodéré, have derived it from *chrétien*, in consequence of the popular notion that the cretin is especially blessed by Heaven; others refer the derivation to *cretina*, which signifies stupid or silly, apparently a more feasible explanation of the word; Esquirol suggested that the term originated in *cretine*,

alluvial soil, believing that an alluvial region was among the causes of the malady.

Synonyms.—The terms applied to these wretched beings have, of course, varied in different countries. In Savoy they are called *crétins*, or *fous*. In the Vallais, again, cretins of the lowest class are called *tschengen*, those of a higher grade *trissel*, and those of the highest *gauch*. In Styria they are called *dotteln*. In Italy, *semphiaggine*. In Piedmont, *foulitre*, &c.

Definition.—An arrested development of the nervous system and bodily organization generally, either before or after birth, due to a local cause, as the condition of the soil, water, air, &c., and marked by characters which in some respects distinguish it from ordinary Idiocy.

Distribution and Symptoms.—These different terms indicate at once that Cretinism is not confined to Switzerland, whence we hear most about it, but that it is endemic in many countries. More than this, it is sporadic, an occasional case being found presenting the character of genuine Cretinism more or less strongly marked.

One such case, in a very modified form, was admitted into the York Hospital for bronchocele. When asked how he was, his constant reply was "My belly aches, and my breast is sore," and it might have been supposed this was the extent of his vocabulary. A report of this case will be found in 'The Medical Times and Gazette,' Sept. 15th, 1855, a portion of which may be cited here:—"He is very short for his age (14), is of rather fair, but pale and earthy complexion, and of a quiet, apathetic expression of countenance. He is not destitute of intelligence, though very decidedly below par. He has been sent to school regularly, and has learnt to write fairly, but can scarcely read at all. He answers questions in a slow hesitating manner, and can with difficulty be got to speak to strangers. The abdomen is large and tumid, but there are no indications of organic disease either in it or the chest. The thyroid gland, although now much reduced in size by treatment, is still enlarged, in all its proportions, to a degree quite perceptible to the eye. The arch of the palate is high and narrow, and the teeth have grown very irregularly. The muscles generally appear fairly developed, and feel firm to the touch. He can walk and run, but is not active. In regard to his history, it was ascertained that both parents were very short of stature; and although neither was so deficient in mind as to approach imbecility, yet both were peculiar in temper, and by no means of vigorous intellect. The father is still living, the mother died of phthisis, with acute intestinal complication, about six years ago. Idiocy is not known to have ever shown itself in the family of either, nor is it certain that any relations have had goître. Both parents were born in York, and have lived there all their lives; they were in no way related before marriage. All their children, four in number, are delicate and ailing." The eldest died under our care, of granular disease of the kidney. Although twenty years of age, any one would have supposed him to have been between ten and twelve. His height did not exceed four feet two inches. He was an exceedingly pale, cachectic, ill-conditioned boy. His expression, although not intelligent, did not present any striking indication

of imbecility. There was no enlargement of the thyroid gland. The arch of the palate was decidedly high and narrow; the teeth bad, and very irregular. There was no hair on the pubes or in the axillæ. The testicles were atrophied. In regard to his mental condition, there was a general dulness about him; his replies to questions, which were very deliberate and in a weak voice, were generally monosyllabic. He was eight years old before he could talk, from which period he had everything to learn. He ceased to grow at seventeen years of age. It must be added to the above that the father is a miserly man, who appears to have cruelly treated and starved his children. The locality in which they lived was by no means healthy.

The autopsy exhibited a want of symmetry in the two halves of the cerebrum. The dura mater was adherent in the superior portion of the brain, and the sub-arachnoid tissue infiltrated with turbid serum. The skull was decidedly thin. With the exception of a soft condition of the optic thalami, the brain was healthy.

At Earlswood, Dr Grabham has pointed out to the writer two particularly interesting idiots who resembled cretins. One squatting on the ground, whom we supposed from his size to be a child, proved to be above twenty years of age. He had been eleven years in the institution. His height was a little more than two feet and a half. He could not speak, but he could see and hear. When he got up from the floor he seized a chair for support. His expression was striking, and to those who have travelled in the cretinous districts of Switzerland, it would be recognised as belonging to that family. So of another of the inmates, a girl admitted about two years ago. She was nearly four feet in height. Her case was a congenital one, the cause assigned being fright to the mother during pregnancy. Her aspect resembled that of a cretin. She was a deaf-mute.*

* In a paper contributed by Dr Fagge to the Royal Medical and Chirurgical Society (1871), on "Sporadic Cretinism occurring in England," these cases are described and lithographic illustrations given. They present supra-clavicular swellings, which Dr Fagge thinks is a constant feature in sporadic cretinism. One who was supposed to have no thyroid gland, developed a bronchocele of some size shortly before he died. Dr. Grabham has had two more cases of Cretinous Idiocy admitted at Earlswood.

Mr Curling in 1850 read a paper to the Royal Medical and Chirurgical Society on "Two cases of absence of the thyroid body, and symmetrical swellings of fat tissues at the sides of the neck, connected with defective cerebral development." In both these cases a post-mortem examination was made and showed that the supra-clavicular swellings consisted of superficial collections of fat, without an investing envelope. Another case was reported by Dr Down to the Pathological Society, in 1869. Dr Fagge thinks there is a certain antagonism between goître and cretinism, that is to say, the former when large may be a protection against the latter, and suggests that "cretinism is associated with an enormous bronchocele only when the exciting cause is present in a very intense degree." See a case in the 'Journal of Mental Science' for July, 1876, and another in the 'Path. Trans.,' 1874, both contributed by Dr Beach.

Mr McClelland found in the cases he observed in India that the tumour does not

Cretinism is said to be first mentioned in a will of the 15th century, in which the testator provides for the safe keeping of an innocent. Mention is made by Juvenal of goître "in Alpibus."

Shakespeare, never at a loss for an illustration, has not overlooked goître. He makes Gonzalo say—

> "Faith, sir, you need not fear: when we were boys,
> Who would believe that there were mountaineers,
> Dew-lapped like bulls, whose throats had hanging at them
> Wallets of flesh?——which now we find
> Each putter out on five for one, will bring us
> Good warrant of."

The Swiss cretins were spoken of by Felix Plater so far back as 1500.

In later times numerous writers have given descriptions of this unfortunate class; the first systematic treatise was by Fodéré, in the year 1792. He was followed by Michaëlis, Autenrieth, the Wenzels, and others.

Dr Guggenbühl, in 1841 established a hospital upon the Abendberg, in the canton of Berne, for the purpose of caring for, and endeavouring to educate, cretins.

In 1850 appeared the Report of a Commission appointed by Charles Albert, the then King of Sardinia, to investigate the causes and nature of Cretinism, and to suggest means for the relief of so terrible a malady.

From the particulars collected and presented by this Commission in their Report, we are able to obtain much valuable information in regard to Cretinism.* We have ourselves also visited some of the districts in which Cretinism prevails, and can confirm the accuracy of this Report so far as our observation extended.

Much discrepancy exists in the statements of authors as to whether cretinism can be recognised at birth. The true state of the case, according to the article referred to, appears to be always originate in the thyroid gland, but "may commence with a fulness of the base of the neck in one or both sides over the middle of the clavicle."

We have recently seen a girl, aged 5, under Dr. Cheadle, at the Children's Hospital, Great Ormond St., decidedly deficient in mental power, with supra-clavicular swellings of fat, and no bronchocele. She never walked or stood alone. Her lips were large, and her mouth generally open. She ate so slowly that the nurse generally fed her. Her length was 28 inches. No hereditary disease could be traced. She was born and has lived in the Commercial Road, London.

* *Vide* article in the 'Amales Médico-Psycologiques,' April, 1850, by Brierre de Boismont.

this :—that there is no pathognomonic sign by which it can be then diagnosed, but that a certain combination of symptoms may allow us to prognosticate, in childhood, the future development of Cretinism. In well-marked cases it is stated that, after the fifth or sixth month, the child presents the following symptoms :—the development of the body proceeds very slowly; the child, though weak, is remarkably stout, and appears swollen ; the colour of the skin is sometimes dusky, sometimes yellow, sometimes natural; the head is large ; the fontanelles widely separated, and sometimes all the sutures disjointed ;* the expression is stupid ; the appetite is voracious, and much time is passed in sleep. The belly is swollen; the extremities are generally attenuated ; the neck is thick, without, however, being always goitrous ; teething is not completed for many years, and is accompanied by an offensive salivation, and frequently by convulsions. Usually the child cannot stand before its sixth or seventh year, and it is then that it begins to articulate certain sounds, if not deaf from birth. The voice is hoarse and shrill, and words are spoken with difficulty. The development of Cretinism, strictly speaking, occurs about seven ; but it is clear that all its main features were present long before. Dr Morel calls from seven to eight the critical age for Cretinism. It is asserted that no instance is known of a child becoming a cretin after the seventh year, under the influence of local circumstances alone. Of 4888 cases in which the age when the first symptoms appeared was ascertained, 4440 were between the time of birth and two years; 187 between two and five; 202 between five and twelve; 31 between twelve and twenty; 28 from twenty and upwards.

Although speaking of the differences of opinion as to whether or not Cretinism can be diagnosed at birth, we do not mean it to be inferred that there are no cases really congenital. On the contrary, the classification of Dr Guggenbühl recognises a congenital class. His second division includes those affected with rachitis ; the third, those specially characterised by general

* The 'Contributions to Midwifery and Diseases of Women and Children,' &c., by Drs Noeggerath and A. Jacobi, contain an essay by the latter physician in which he endeavours to show the great importance of premature closure of the fontanelles and sutures of the infantile cranium, as a cause of cretinism and idiocy. This is quite consistent with the same mental condition being associated in other cases with non-closure of the cranial bones at the normal period, which he decides to be about thirteen months of age.

atrophy; and the fourth, those cases complicated with hydrocephalus.

Three classes of cretins are generally spoken of by authors, according to the degree of defective development.

1st. Cretins; manifesting only vegetative functions, and deprived entirely of reproductive and intellectual faculties, including the power of speech.

2nd. Semi-cretins; possessing the power of reproduction, and some faculty of speech; intellectual faculties, limited to corporeal wants.

3rd. Cretinous; having intellectual faculties superior to the former, and able, in some degree, to apply to trade and other employments.

Of 6107 cases of Cretinism, classified by the Commission, 2165 belonged to the first, 3518 to the second, and only 424 to the third class.

Those of the second and third class have been called megalocéphales by M. Cerise, who measured their crania in 105 instances, and found them more capacious than those of the first class. There appears to be in a large number of cases a fronto-occipital contraction of the skulls of cretins (brachycephalic), while the sides of the head are prominent. Thus, in a hundred instances, it was found by Dr Trombotto that the distance from the root of the nose to the occipital spine was less than over the head from ear to ear, by four centimètres (the English inch = 2·54 centimètres). The heads of some cretins are in the form of a cone, the apex being at the junction of the sagittal and lambdoidal sutures.

The character of the face appears to remain almost unchanged from puberty to old age—that is to say, cretins are old men and women at fourteen. The eyes, in addition to their want of expression, are generally affected with strabismus, the zygomatic arch is very large, the mouth of remarkable size, and the lips thick, the lower one hanging down. The superior maxilla is prominent. The inferior maxilla is small, retreating, and its angle very obtuse, as may be seen in the plates in Carus's atlas; where the reader may also observe the contrast between the "three cranial vertebræ" of cretins and others. Deafness is very frequent.

In regard to the stature of cretins, there are many in Savoy

only about three feet. They rarely exceed four feet eleven inches, and are mostly under four feet, though they may attain even six.

The symptoms of Cretinism may be thus recapitulated, almost in the words of Brierre de Boismont :—Peculiarity in the form of the head; a disproportion between all or certain parts of the body, in consequence of defective development; imperfect nutrition, to a greater or less extent; generally, absolute powerlessness of reproduction, or, at any rate, great torpidity in this respect; little muscular energy; voluntary movements undecided; inability to stand beyond a short time; total want, or a marked imperfection, of language; imbecility more or less decidedly exhibited in the countenance, as well as in the character.

"The coexistence of all the preceding conditions," observes the above writer, "constitutes absolute Cretinism; the absence of any one of them, or the diminution of their intensity, constitutes semi-cretinism. Between these two extremes the gradations are infinite."

After this review of the symptoms manifested by cretins, we recur to the inquiry, In what does a cretin differ from an idiot?

In the first place, an idiot is born with his deficient development; the malady is congenital and organic. The cretin, on the contrary, may for some time appear free from disease, and, if placed under favorable circumstances, might escape, although it is obvious that he must have a greater predisposition to this peculiar condition than a neighbour who does not become a cretin; this predisposition is clearly hereditary, and Fodéré found that, if a male affected with goitre,* the son of a goitrous semi-cretin, married a semi-cretin, their offspring was a complete cretin. If, on the contrary, a male cretin of the second class married a healthy mountaineer, the offspring would be a cretin of the best (the third) class. But, if the races did not continue to cross, then the offspring of such an union resembled the grandfather and not the father. As, with the highest authorities, we have decided to restrict the term Idiocy to a congenital condition, we must distinguish it from Cretinism, which may, as we have seen, be acquired at various periods of life, even as late as twenty.

* Of 5923 cretins, 3912 were goîtrous, 2011 not. This does not, however, include cases in which the neck was short and thick—a numerous class.

Secondly—Cretinism is endemic; Idiocy is not so, but appears in our own country, without any particular regard to locality. From this, the ætiological point of view, its toxic origin is its distinguishing characteristic.

Thirdly—Cretinism is more curable than Idiocy. We do not speak now of educability. Morel observes with truth, that the idea that cretinism is merely the lowest stage of Idiocy has been fraught with mischief, by rendering the prospect of cure almost hopeless, instead of pointing out the existence of some cause—some poison—external to the cretin (although it may act upon him even in fœtal life), the removal of which is the first step to take towards benefiting him. Idiots and cretins may be the offspring of the same parent.

Fourthly and lastly, a marked distinction exists in the greater degree in which, in cretinism, both systems, the nervous and muscular, are affected. "L'idiot," says M. Baillarger, "est un être dont l'arrêt de développement porte sur l'encephale, tandis que chez le cretin, il y a un arrêt général, tant du développement du cerveau que de l'ensemble de l'organisme." The size of the feet is quite disproportionate to that of the trunk, while the prominent abdomen resting upon lank attenuated legs, and the head, which is sometimes cumbrously large, drooping over an ill-developed thorax, exhibit humanity in its most distorted form.

Ætiology.—For some of the causes of Idiocy see pp. 55, 56. The male sex is a cause of Idiocy from the greater size of the male skull. Dr Down found, in 2000 cases of Idiocy, that there were rather more than twice as many boys as girls, viz. 2·1 of the former to ·9 of the latter, the order of events being prolonged parturition; continued pressure; suspended animation; injury to the cerebral functions; idiocy. He noted also a greater liability to infantile convulsions in the males who had become idiots than among the females. In connection with the question of sex, he observes that "where the origin is purely of a neurotic character, my notes show that when the neurosis is paternal the male progeny are liable to suffer and the female to escape; where, on the contrary, the neurosis is maternal, the female progeny is likely to bear the stress." On the influence of ergot of rye, Dr. Down failed to obtain reliable results ('Trans. of the Obstet. Soc.,' 1876).

To the causes of Cretinism we shall now briefly refer; the conclusion at which the Sardinian Commission arrived was

PLATE III

Fig. 1.

Fig. 2.

Cretins with goître (sisters) at Baynères-de-Bigorre, Hautes Pyrénées
March 1878.

West, Newman & Co. lith.

that, notwithstanding many exceptions, the most general and constant cause is a humid or vitiated atmosphere, whether in consequence of the character and situation of the country (as in the narrow valleys between the mountains), the position and aspect of the dwellings, the badly constructed, ill-ventilated, and dirty houses, or the want of sunlight; to which must be added the bad quality of the water, the excess or deficiency of some of its constituents, the non-nourishing food, and its insufficiency for the wants of life. In 1862 we endeavoured to trace the causes of Cretinism in the affected districts in the Alps, and in 1878 visited the Pyrenees with the same object, and were confronted with exceptions to every hypothesis we proposed to ourselves as probable. Still, we believe the foregoing contains the general truth, and that in some instances one of these causes operates, and in other instances another. The traveller cannot but be struck with the contrast between many of the present dwellings and the miserable hovels formerly occupied by the inhabitants. From this change there is in some localities a diminution of Cretinism.

In regard to the conclusion of Morel that Cretinism and goître depend upon the geological constitution of the soil—that "we are authorised in deducing from the geological constitution of the soil the existence of a poisonous principle, which acts upon the nervous system in the manner of a deleterious *miasma*"—we found considerable evidence that it is one of the circumstances exerting a prejudicial influence in determining these forms of disease, although we also found that magnesian limestone, for example, which has been most suspected, must be associated with other unfavorable circumstances, for the same formation on the mountains may be unattended by injurious results. Again, Cretinism and goître are met with high above the level of the sea, without this constitution of the soil, but with local conditions or individual modes of life which appear to favour their development. As to goître, and its origin in the drinking water, while there is much to favour this view, the same water is drunk at Pau as in the Valley of Ossau, yet in the former goître is unknown, and in the latter it prevails. Hence, unless modified *in transitu* in pipes and reservoirs, the water is not so much to blame as the miserable food, dwellings, and locality, to which the dwellers in the valley are subjected. Dr Auzouy, who recently gave us information on this subject when visiting the Pau Asylum, and who was delegated by the

French Commission* of 1868 to study endemic diseases in the valleys near him (Ossau and Aspe), formed the opinion that the immediate causes of Cretinism and goître are to be found in a poison analogous to the marsh poison, arising out of the permanent dampness of the atmosphere in the valleys, the constant evaporation producing, in fact, a vapour-bath highly detrimental to health, and causing pernicious exhalations from earthy and vegetable matters—an opinion essentially similar to that of Morel, who, on this ground, apart from his view of the special influence of magnesian limestone in poisoning the atmosphere under certain conditions, regarded the clay and gypsum formations in Savoy as favoring these diseases. Indeed, Guggenbühl stated to us at the Abendberg that he only attached importance to Morel's theory of telluric influences so far as that any soil which prevents the rain passing through or off it may, in a narrow valley, conduce to Cretinism by causing malaria. Thus, a clayey soil is bad, on account of its not allowing the water to find a thorough exit; a chalk soil is good to this extent, that it allows of percolation; and a granite formation usually permits the water's escape by some means. He mentioned as an exception a district which, although granitic, was the seat of Cretinism, the explanation being that the surface of the country was hollowed out, and the water accumulated and stagnated. Again, in a chalk district, where Cretinism occurs in some families, other causes neutralised the effects of a soil not favorable to malaria. At Martigny we found a medical man, Dr Lugony, of opinion that the grand cause of Cretinism was a poisonous stagnation of air—the absence of a free current of wind—along with a marshy valley. In Martigny itself, Cretinism is to be seen in narrow stagnant streets, but not in good houses well situated. At Sion a medical practitioner informed us that the removal of a wall surrounding the town, and rendering the air very close, had had a striking effect in diminishing Cretinism. Evidence† has been brought forward to show that in mountainous districts in India, violent exercise, coupled with the higher elevation above the sea-level affecting the circulation, produces goître, and that there is a great tendency in the children to become affected with Cretinism. This fact, among

* Emanating from the Académie de Médécine, and charged by the Minister of Agriculture to investigate the causes of Cretinism and goître. Report published in 1873.

† 'Some Inquiries into Goître and Cretinism,' 1873, by Dr Wilson, Punjab.

others, shows the close relationship between the ætiology of the two diseases, true as it is that goître may prevail in England and elsewhere without Cretinism.

Mr McClelland, in his 'Sketch of the Medical Topography of Bengal and the North-West Provinces,' arrives at the conclusion (contrary to Guggenbühl and others) that goître and Cretinism are varieties of the same disease. He carefully examined the geological accompaniments, and states that the proportion of the inhabitants of each of the following strata who were affected with those maladies, stands to the healthy in the following order:

Granite and gneiss :—Goître 1 in 500; Cretinism, none.

Mica slate and hornblende slate :—Goître, none; Cretinism, none.

Clay slate :—Goître 1 in 190; Cretinism, none.

Limestone rocks :—Goître 1 in 3; Cretinism, 1 in 32.

He is one who believes that water is the medium through which the deleterious influence is conveyed, although no analysis has succeeded in detecting the ingredients to which the effects produced can be ascribed, and he points out that Alpine limestone does not exist to any great extent in the mountains of Ireland, Scotland, or Wales, where goître is unknown; whereas it forms the characteristic feature of the country which has rendered the "Derbyshire neck" proverbial. The deleterious influence of limestone rock upon the air as well as the water is insisted upon by Mr McClelland. On the other hand, it is allowed by many, who attribute goître to the drinking water, that neither sulphate of lime, nor chalk, nor magnesian salts, are to blame, nor yet snow water, nor the absence of iodine, but some still undiscovered ingredient derived from the decomposition of organic matter. The snow-water theory has not, we have found, many advocates now. The iodine explanation (Chatin) seems to us too absurd to deserve refutation, except so far as iodine in water proves an antidote.

The poison, whatever it be, which eludes our grasp, infects the blood, and through it the nervous system, causing arrest of cerebral development and premature ossification of the cranial bones. Virchow has made a large number of highly interesting observations on the ossification of the various bones of the skull in connection with Cretinism and Idiocy. We think, with a writer in the 'Medico-Chirurgical Review' (July 1861), that

the narrow upper jaw and high palate* are, in part at least, influenced by the arrest of growth of the spheno-occipital (or tribasilar) bone. "The suture-substance itself furnishes the material of ossification, stroma for a deposition of the lime salts, so that under ordinary circumstances a skull-bone can only increase equally in all directions when this bone-originating suture-substance lies on all its sides. If, then, adjoining skull-bones be soldered together by a premature and complete ossification of the interlying suture (by synostosis), a limit is set to further growth in that direction. If this happens to many sutures at the same time, a microcephalous skull results. If it only happens to one suture, or to part of a suture, an abnormally asymmetrical or deformed shape follows." The antero-posterior contraction of the skull already described is accounted for by ossification of the coronal and lambdoidal sutures. When, on the contrary, the cretin head assumes a dolichocephalic form, there has been, it is presumed, synostosis of the sagittal suture.†

On the whole, a study of the ætiology of Cretinism leads us to the conclusion that while it is still obscure, and while different causes must be assigned in different localities, the most common are a humid and vitiated atmosphere, deficient sunlight, poor food, and miserable dwellings.

Prognosis (see p. 144).—Bad as the prognosis of Cretinism and Idiocy is, modern philanthropy has done a great deal to modify its unfavorable character. Dr Guggenbühl's efforts to educate cretins are well known. When the writer visited his institution on the Abendberg some years ago, nearly all the inmates were out of doors and he had no opportunity of testing their condition. The statements made by Dr Güggenbuhl were very strong in regard to the improvement which had taken place in mental development. As every one is aware, great difference of opinion exists as to the character and success of the Swiss physician's work; and all that we seem able to state with certainty is that some cases were benefited by the care and treatment they received, and that the real or apparent success of this institution gave a stimulus to the education of idiots in this country which has been of great service. In regard to Idiocy, Herr Saegert of Berlin is the most sanguine

* See an article by Dr Claye Shaw in opposition to some of Virchow's views in the 'Journal of Mental Science,' 1876.

† See Dr Pommerol's 'Recherches sur la Synostose des Os du Crâne,' Paris, 1869.

instructor of this class we have met with in regard to the recovery of mental power in even the lower forms. He assured us when we visited his school that he had indubitable cases, in which the head was small and malformed, yet in which the results of education were so triumphant that they were ultimately able to mix with the world without being recognised as imbeciles. In one instance a young man underwent confirmation without the priest suspecting that he had been delivered from imbecility. Of course, however, there is a limit beyond which it is impossible to develop the intelligence—a fact which really seems to be sometimes ignored when people talk about the wonderful cures of Idiocy.

When visiting Earlswood, in 1872, the writer found that, during the previous twelve months, out of 288 males, 102 had been employed as mat-weavers and helpers, 32 as tailors, 25 as shoemakers, 22 as carpenters, 19 as basketmakers, 17 as boot and shoe cleaners, and 16 as gardeners. Of 187 males under instruction in the early part of the year 74 could *speak* fairly, 45 made a few sounds only, 43 spoke indistinctly, 25 not being able to speak at all; 32 could *read* fairly, 21 read by spelling the words; 27 knew nearly all the letters, 40 knew a few letters, 60 not knowing any; 24 could *write* sentences in copybooks, 31 wrote easy words, 40 made a few letters, 43 made strokes, 49 scribbled or made no attempt. As to *arithmetic*, 15 could do sums by themselves in the simple rules, 25 add from black board and count above 100, 20 count above 50, 23 above 25, 58 a little, 46 not at all, 35 knew all the coins and weights, and could calculate at the "shop lesson" a little, 55 did not know any, the remainder knew some. As to colour, 36 knew the primary and secondary colours, 42 knew eight or nine, 44 knew one or two, and 65 did not know any; 62 could *draw* either on the slate or paper. Lastly, in regard to an interesting test of capacity, telling the clock, out of the above number of 187 pupils, 119 could not tell the time at all, 26 could tell one or more of the hours, 19 could tell the hours and quarters, while 13 could tell the time to a minute.

See in addition to works cited:—Gratiolet's "Mémoire sur la Microcephalie considerée dans ses rapports avec la question des caractères du Genre Humain," 'Journal de Physiologie,' par B. Séquard, 1860, in which he arrives at the conclusion that the brain of a microcephacele is not that of a monkey, but of a man, "amoindré"; an article by Dr Carter, Demonstrator of Anatomy, Cambridge, "On the Dissection of an Idiot's Brain, in whom the irregularities in the arteries and muscles was very

peculiar," 'Humphrey and Turner's Journal of Physiology,' 1869 (see also ibid., Nov., 1871); Mr R. R. Gore's case of an idiot whose brain only weighed 10 oz. 5 gr. (av.) without membranes, the transverse diam. being only 3·25 in., 'Anthrop. Rev.,' May, 1863; Marshall, "On the Brains of Two Idiots," 'Phil. Trans.,' 1864, p. 526; 'Anthrop. Rev.,' 1863 (the lightest brain on record (?), viz. 8·5 oz.). Sander, 'Archiv. für Psychiatrie,' 1868, agrees with Wagner and Owen, as opposed to Vogt, that the brains of idiots do not revert to the "Simian" type, "for whilst they resemble the latter in the anterior lobes, they are as far removed from apes in their posterior lobes, of which these are nearly destitute." On absence or imperfect formation of the corpus callosum, &c., in idiots, see articles in 'Medico-Chirurgical Trans.,' by Paget, Mitchell-Henry, and Down, vols. 29, 31, 44, and 49.

With the foregoing may be usefully compared the weights of brains in non-idiotic persons collected by Dr Thurnam, 'Journ. of Men. Science,' April, 1866; the average European's weighing 47·1 oz., and that of ten distinguished men 54·7 oz., the age varying in both instances between 50 and 70.

'De l'Idiotie chez les Enfants,' par Felix Voisin, 1843. 'Traitement moral, hygiéne, et education des Idiots,' par Dr E. Seguin, 1846. 'New Facts and Remarks concerning Idiocy,' by Dr Seguin, 1870. 'A Manual for the Classification, &c., of the Feeble-minded, Imbecile, and Idiotic,' by Dr Duncan and Mr Millard, 1866. 'The Idiot and his Helpers,' by Mr Millard,' 1864. 'Remarks on the Origin, &c., of Idiocy,' by Dr Grabham, 1875. 'The Education and Training of the Feeble in Mind,' by Dr J. Langdon Down, 1876.

Grange, "Mém. communiqué à l'Académie des Sc.," Oct., 1848 ('Ann. d'Hygiéne pub.,' 1849, t. xli, p. 218); and "Rapport sur les causes du Goître et du Crétinisme" ('Archiv. des Missions Scient.,' 1850). 'Die Cretinen-Heilanstalt auf dem Abendberg in der Schweiz, Cant Bern., von Dr Guggenbühl,' 1853. (Dr Guggenbühl's first work was published in 1830, but this is the most important.) Chatin, "Un fait dans la question du Goître et du Crétinisme," 1853; "Sur les eaux potables" ('Bulletin de l'Académie Impériale de Méd.,' 1863). 'Annales,' 1855, 56, 57, 59, 65, 67, 68. Parchappe, 'Rapport à la Commission du Goître et du Crétinisme,' 1862. Guy et Dagand, "Du Goître et du Crétinisme dans le Haute-Savoie,' 1864. Chabrand, 'Du Goître et du Crét. endém.,' 1864. 'Relazione de la Commis. por lo Stud. del Cret. in Lombardia,' Milano, 1864. Auzouy, "Les Crétins et les Cagots des Pyrénées" ('Annales,' 1867). Lunier, "De l'Aliénation mentale et du Crétinisme en Suisse" (Idem, 1867-8). Dr Darnis, 'Etude sur le Goître et la Crétinisme dans le Tarn-et-Garonne,' 1871.

'Études sur les causes du Crétinisme,' par St Lager, Paris, 1867.

"L'Endémie du Goître et du Crétinisme envisagée dans les Pyrénées au point de vue de ses rapports avec la nature géologique du Sol," par M. Garrigou ('Gaz. hebdom.,' Nos. 17 et 18, 1874).

'Études sur le Goître et le Crétinisme,' par M. Parchappe, Documents mis en ordre et annotés, par M. Lunier, Paris, 1874.

SECTION II.—Dementia.

Having disposed of Idiocy, Imbecility, and Cretinism, we will now pass to the consideration of Dementia.

Synonyms.—*Démence* (Fr.); *Blödsinn* (Ger.); *Stupidità* (Ital.); *Incoherence* (Prichard); *Fatuity.*

Definition.—"Dementia," observes Esquirol, "must not be confounded with Imbecility or Idiocy. In Imbecility, neither the understanding nor sensibility has been sufficiently developed. He who is in a state of Dementia has lost these faculties to a very considerable degree. The former can neither look backward nor into the future; the latter has recollections and reminiscences. Imbeciles are remarkable by their conversation and acts, which greatly resemble infancy. The conversation and manners of the insensate bear the impress of their former state. There exists, therefore, a form of mental alienation which is very distinct—in which the disorder of the ideas, affections, and determinations, is characterised by feebleness, and by the abolition, more or less marked, of all the sensitive, intellectual, and voluntary faculties. This is *dementia.*"

Classification and Symptoms.—In regarding a number of patients in a state of dementia, we have found it convenient to group them in the following way.

1st. Those who, whether previously well or insane, are gradually passing into a decidedly demented condition. Some confusion of thought, a perplexed rather than a stupid expression, and a failing memory, are the most obvious symptoms. Such patients are not incoherent, or are only occasionally so. They are sometimes conscious of their condition, and carefully avoid committing themselves. They can read and write; but in regard to the latter, it will be found that after composing a few sentences correctly, they express themselves confusedly, and spell incorrectly. This is *partial* or *incipient Dementia.*

2nd. Those who are so far advanced that they cannot tell their names. Many of this class are dirty in their habits. Their time is mostly spent in listlessness, or muttering to themselves, twirling their fingers about in all directions, now catching up something from the ground with which they play until some fresh fancy seizes them; or scraping together bits of paper, sticks, string, stones, &c., not with the constructive power of the child, but purposeless; or if otherwise, only with the mischievous propensity of the magpie. We then have *complete* or *confirmed Dementia.*

3rd. Those cases which are intermediate between incipient and confirmed dementia.

In a considerable number of cases, Dementia is associated with General Paralysis. Hence the term Dementia paralytica.

In the Hull Borough Asylum the writer saw, recently, out of

80 male patients, under Mr Casson's care, seven in a state of Dementia with General Paralysis. To some of these we shall refer under the section "General Paralysis," but the following may serve here as a specimen of a class of patients so common in our asylums.

J. B—, fifty years of age, walks very badly, speaks with difficulty, puts out his tongue (which is tremulous) with a jerk; manifests very little mind. Expression demented. When admitted in February, 1872, he was already advanced in General Paralysis, although the "statement" represented his illness as of only eight weeks' duration. His wife, however, admitted he had been badly for twelve months. About two years before his admission, he found that a house which he had bought did not belong to the man of whom he had purchased it. This troubled him greatly, as well it might, and appeared to be the cause of the attack. After he had been about six months strange in his mind, his wife observed an alteration in his speech. Soon he became violent, and blamed her for losing his money. He would eat voraciously. At times he would be better and speak more easily; then relapse and be as before. On admission he was very restless, and would not sit still, constantly wanting to push his way somewhere, he knew not whither. He could scarcely utter a word and the tremor of the hands and the lips was marked.

A large number of demented patients, of each class, are subject to fits of maniacal excitement, on the slightest occasion; on the other hand, patients in acute mania are, in consequence of the rapid flow or succession of ideas, perfectly incoherent; and a stranger to the history of the case might be unable to decide whether the patient were demented and excited, or maniacal and temporarily incoherent. "We have found ourselves often embarrassed," says Brierre de Boismont, "in arriving at a conclusion as to the nature of such cases; we have, in consequence, been obliged to submit the patient to a more prolonged examination before giving an opinion. It is a good plan to attempt to make them write; if they do, we then see that they (the dements) have forgotten their words and letters." Guislain, in speaking of the *oppression* rather than *extinction* of mental power which is present in the incoherence of acute mania, well compares it to a veil which temporarily covers the intelligence.

A considerable proportion of the patients in asylums for the insane afford illustrations of Dementia in its various stages, from the most incipient form to that in which the patient has no longer any just perception of the subjects around him; can no longer exercise his reason; has completely lost the comparing faculty; and has left to him little more than the functions of organic life.

In contemplating a group of demented persons, it is instructive to reflect on the various courses by which they have arrived at the same deplorable condition. Were we to retrace their mental history, we should find that some, a few years ago, afforded examples of Melancholia, and were perfectly conscious of all that passed around them. By slow gradations, the mental faculties became dulled, confused, and finally obliterated.

Some were maniacs, the very intensity of whose mental operations appears to have exhausted their supply of cerebral power; and a too rapid succession of images, which ought to have been spread over a lifetime, has been compressed within the narrow limits of a few months. The very brilliancy of the flame has caused its premature extinction; the oil which should have sustained the lustre of an entire life, has been lavishly consumed in the production of one splendid but useless conflagration. The ashes in the socket alone remain.

Others, again, without any previous stage of mental disease, have suddenly, and it may be by some overpowering shock to the nervous system, become subjects of Dementia.

Some, lastly, have lost their faculties by reason of old age, and are illustrations of Senile Dementia—which in some instances may be truly called "that last infirmity of noble minds."

To many, a group of demented patients appears as uninteresting a subject of psychological study as can be found in an asylum. This, however, is far from being the case, and we would strongly recommend the student to banish such an impression from his mind. For when he remembers that all have once enjoyed mental health, he can have few more interesting inquiries than to ascertain the causes of their present condition. After having traced their previous history, he will still find a wider field for study then he may expect, in determining their present actual state of mind, the way in which they pass their time, &c. It is always a help to have some definite points of inquiry in view in such an investigation. How many can dress themselves? What proportion can read or sew? How many are unable to attend to the calls of nature? How many are subject to attacks of excitement, or labour under General Paralysis? We will take a few actual cases from a group of demented women now before us (1858), and in the briefest manner touch upon a few of the leading features of their history and present condition.

The first is a woman so agile and playful that you are surprised to find that she is now fifty-seven. For thirty-three years she has been insane. The disorder succeeded suppression of the catamenia, which at first only produced symptoms of hysteria. The return of the discharge, after it had been found necessary to place her in an asylum, was not followed by any improvement; and gradually the condition of mind supervened which is now so apparent—that of complete Dementia. When you ask her her name she gives no rational answer, or responds only by an unmeaning laugh; then runs away, and perhaps slams the door in your face. When you ask the attendant about her habits, you find they are dirty. As to the way in which she employs herself, she can sew a little, but does nothing consecutively. She will sit by the fire, one minute playing some trick with it, another gazing at it with some apparent object, then as the fit takes her, looking out of the window or running out of the room. In regard to prognosis, you have no hesitation in telling her friends that her case is incurable, but that she may live in her spoiled house to a fair old age.

The next case is that of a woman a little more than fifty years of age, who, like the foregoing, became insane when a young woman. She was only nineteen. When placed under asylum care, three years afterwards, she refused to take her food, grounding her refusal upon conscientious objections. Her attack of Insanity was attributed to fever. In the course of years the above condition of religious Melancholia passed away, but the mind became more and more weakened, and ultimately lapsed into a state of incoherence, accompanied by exceedingly dirty habits. She is not so excitable as the last patient, is generally placid, and her vacancy is never relieved by even a momentary gleam of intelligence, or playful mischief. She usually, when you address her or ask her name, replies by an unmeaning interrogatory, expressed in the same words every time. She is stout, eats and sleeps well, and may live many years.

The third example of Dementia presents much more intelligence. It is that of a lady some years older than either of the preceding, who, thirty years ago, became insane in consequence of domestic troubles. She first suffered from chorea, and was subject from time to time to attacks of great mental excitement—recurrent Mania. Dementia ultimately ensued. She differs from both the preceding cases in

giving her name correctly, though deliberately, when asked. Her sentences are sometimes coherent, at other times she rambles, and would never carry on, consecutively, a conversation of any length. Her memory of the past is confused, and in regard to many events quite obliterated. Her habits are clean. In this case, as in some others, Dementia proceeds up to a certain point, short of entire incoherence and irrationality, and then becomes stationary for years, perhaps to the end of life. The study of the different degrees of fatuity at which the malady stands still, and exhibits little tendency to advance, is a very interesting one. In our experience the degree of acquired fatuity has not borne any relation to the patient's original type of mind. The most powerful minds often sink into the lowest forms of Dementia, while, as in the present instance, the downward course is arrested at a comparatively early stage, although the original mental calibre of the patient was below the average. At the same time, it may be true that as regards attacks of Insanity in general, a powerful brain has more chance of recovery than a weak one.

The fourth case is one of considerable interest, and further illustrates the observation we have just made, the patient having been an intellectual and highly accomplished lady, but now sunk into a state of profound and hopeless Dementia. The mother of several children and a widow, she became insane at the turn of life. Several causes operated, however, independently of this critical period, to produce the attack of mental derangement. These were pecuniary losses, and certain family troubles. A strong suicidal tendency manifested itself, accompanied by symptoms of active cerebral congestion, for which leeches were applied. For fourteen weeks the stomach-pump was employed, on account of her persistent refusal to take food. The suicidal symptoms gave way, but were followed by loss of mental power, and at last confirmed Dementia. She is quite unable to tell her name, her language is foul and without any coherence, and she never attends to the calls of nature. She almost always sits in one position, and talks incessantly to herself, or rather declaims against supposed enemies in very unladylike terms.

The fifth case is that of a female, sixty years of age, the subject of mental disease since she was thirty-two; the cause of her insanity not known. Her natural disposition was dilatory; she was always averse to active employment. The attack was chiefly marked by refusal to take food, and by occasional vio-

lence to those around her. For some time her condition of mind fluctuated, but after the lapse of four years, she fell into the state of Dementia from which she has never emerged. She was at that period incessantly occupied in playing with a doll, her former condition of excitement being succeeded by much of the playfulness of childhood; and she is now happy and docile, and can play on the piano, sew a little, &c., but memory and judgment are irrevocably gone.

Case the sixth is that of an old woman, three fourths of whose life have been clouded by insanity. Her mother, a brother, and a sister, were all more or less deranged. At twenty-two she was described as being "in a remarkable degree of Dementia, with such stupor that it was necessary to force her food." For sixty long years, the remaining fragments of her mind have been preserved by care and kindness. In fact, she was among the first to receive the benefits of that better system of treatment which a few years previously had been inaugurated in this country. Cruelty or neglect would soon have ended her days. When asked her name she makes no reply, and never utters more than a monosyllable. She attends, however, to the calls of nature, and recognises a difference in the persons who surround her.

The prevailing symptoms of the last case we shall introduce as illustrative of Dementia are very similar to the last. During sixty-one of the eighty years she has existed, she has been insane. Uninteresting as we may fancy such a case to be, at first sight, this feeling is lessened when we trace back her history during those weary years, and find that when a laughing girl of nineteen she was disappointed in love, and became deranged in consequence. Her symptoms alternated between Melancholia and Mania. We have before us a likeness of this patient, taken a short time afterwards, and it is curious to compare the features of youth, freshly marked by sadness and the early signs of weakness, with her present physiognomy, deeply stamped with the lines of incurable Dementia. With proper attention, no difficulty is experienced in this case as regards the fæcal evacuations, but she occasionally wets her bed. Sometimes she talks excitedly, always incoherently, but she is generally tranquil.

The outward signs of Dementia may, when long continued, be well pronounced in the countenance. It very often happens, however, that when at rest, an observer would fail to discover, in

the facial expression, the mental condition of the patient; but, on asking him a question, his true state becomes at once apparent. The vacant and puzzled look, the lack-lustre eye, the weak smile, or meaningless laugh, betray the patient's Dementia. His physiognomy, being the fixed expression and impress of his former sane mind, may remain unaltered; but his pathognomy, being the involuntary reflex of his actual psychical condition when called into action, exhibits all its deficiency and all its degradation—

> "And the inglorious likeness of a beast
> Fixes instead, unmoulding reason's mintage,
> Charactered in the face."—*Milton.*

In this, Dementia differs from those forms of mental deficiency which have originated in a congenital or infantile condition—Idiocy and Imbecility—and in which there is an unvarying accordance between the physiognomy and psychical power. In Dementia, on the contrary, although occasionally, indeed, not one stone is left standing upon another of the once glorious temple of thought, we may frequently trace in the yet undistorted facial lineaments, many vestiges which bear witness to the patient's original mind.

Esquirol notes among the physical symptoms of Dementia, "a pale face, the eyes dull and moistened with tears, the pupils dilated; . . . the body now emaciated and slender, and now loaded with flesh; the face full, the conjunctivæ injected, and the neck short." This description, however, must be taken in a very general sense, and is open to many exceptions. The health may be fairly good; digestion and sleep regular. Incurable Dementia is often but too surely indicated by the inclination of the head forwards. Apart from cases of paralysis, there is a general relaxation of the muscular system, often manifested in the walk, and not unfrequently the cause of the crouching attitude patients in Dementia assume. So justly has muscular power been termed the *pulse* of mental affections.

Dementia may be primary or secondary; and either may be acute or become chronic. If a terrible calamity, for instance, overthrows the reason and causes fatuity, we witness an example of primary Dementia. It may be said, in a general sense at least, that at first it is acute, and that if it persists, it passes into chronic Dementia. If, again, an attack of acute Mania is succeeded by apathy and obliviousness, we witness

secondary Dementia. It may prove to be only acute and curable, or it may not be recovered from and prove chronic.

Primary Dementia may be gradual as well as sudden in its invasion, and when this occurs it is, perhaps, one of the most painful forms of Insanity; the patient often being acutely sensible of a gradual loss of memory, power of attention, and executive ability. There is an occasional confusion of ideas, and a transient blank in the expression. At this period we have seen the distinction often well marked between the strictly intellectual and affective disorder; since, in association with the preceding deficiencies, the affections of the patient have been remarkably warm, and his moral sense unimpaired. As generally presented to our notice, however, at a later stage, Dementia extends far beyond the former class of mental disorders—those, namely, involving the intellectual faculties—and involves in the mental ruin the moral feelings, to a greater or less extent, also. Moral alienation is, indeed, so constant a feature of Insanity in general, when the patient comes under care, that Esquirol regarded it as the proper characteristic of mental derangement. "There are madmen," says he, "in whom it is difficult to discover any trace of hallucination, but there are none in whom the passions and moral affections are not disordered, perverted, or destroyed. I have, in this particular, met with no exceptions." On the other hand, it is sometimes remarkable to witness the slight degree in which the affections have been weakened by an attack of Insanity, surviving, in fact, an injured intelligence, in accordance with the remark of Pinel, that he had nowhere met, except in romances, with fonder husbands, more affectionate parents, more impassioned lovers, more pure and exalted patriots, than in his intercourse with the insane.

Primary Dementia, suddenly induced, occurred in the following melancholy case:

Martha S— was a respectable young woman, seventeen years of age, in the full possession of her mental faculties. Having occasion one evening to pass through some fields near the town where she lived, she was assaulted and violated. *From that hour she never spoke.* She became completely demented, staring vacantly about her, answering questions incoherently, tossing her arms about like an idiot child. She lived nine years in this deplorable condition. A post-mortem examination was made. The brain was well formed, but there was a somewhat softened state of one portion of it; a condition probably of recent date. Beyond this nothing worthy of note was observed. The outline of her face and head contrasted remarkably with that of a true idiot. She seemed like some form discovered among the ruins of Pompeii, suddenly arrested in the midst of health, and struck in an instant with mental death.

Dementia is much more frequently *secondary* or *consecutive;* that is, the consequence of other diseases of the mind. Mania very often degenerates into Dementia; as also do Melancholia and Monomania. Thus, during forty-four years, while 277 cases of Mania and 215 of Melancholia were admitted at the Retreat, only 48 of Dementia were admitted during the same period; yet, at the end of that term, nearly one fifth of the patients remaining in the institution were in a state of Dementia.

At Charenton, of 221 patients who died, 115 were demented, 60 laboured under Mania, and 43 under Monomania; results to be expected, not only from the constant tendency of Mania, and other forms of mental derangement, to pass into Dementia, but from the large number of cases in which Dementia is associated with General Paralysis.

The *acute* form of Dementia is comparatively rare, especially when compared with chronic varieties of Dementia, or *mélancolie avec stupeur.* We have said that it may be consecutive to other mental affections. Esquirol's typical example of acute dementia was consecutive to Mania. He did not therefore confound primary and acute dementia. But whether primary or secondary, custom has more especially assigned the term to a mental condition which consists of a suspension, an arrest, rather than a destruction of the mental powers. The usual and most prominent symptoms of Acute Dementia may be thus enumerated: facial expression vacant, listless, stupid; mouth often open, the saliva trickling down on to the beard or dress; the breath offensive; the pupils dilated; the appetite bad, refusal to take food; evacuations passed involuntarily; skin cold and clammy, hands blue and swollen; pulse very feeble and slow; diminished sensibility; respiration slow and shallow; eyes frequently half closed, the eyeballs turned up; muscular activity slight, sometimes nil, patient remaining in the same position all day; more or less catalepsy in many instances. Mute, or only repeating a few works automatically; apathetic, apparently unaware of what is passing around, the mind being more or less of a blank. We retain this form of insanity under dementia, but it is very important not to confound it with dementia in the sense in which it is ordinarily employed to describe a condition of mental disease associated with structural change. The case of Martha S— is one of a class which presents obviously distinct and important characters when

contrasted with acute dementia. The mind was hopelessly injured by a terrible shock. Unquestionable dementia was induced. The prognosis differs entirely from that formed in acute dementia. By Esquirol acute dementia was described as a form of mental disease which is sudden, is caused by suppression of an evacuation, fever, the lowering treatment of Mania &c., and is easily cured by baths and so forth. He gives as an illustration of this form the following case:

The patient, when twenty years of age, had, for three months, violent pain in the head. She suffered from insomnia for four days, and afterwards from delirium. She was brought to the Salpêtrière in a state of mania, which lasted nearly two months. The patient then sank into a state of apparent Dementia. She appeared insensible to everything that was passing around her; did not change her place; never spoke, nor spontaneously replied to questions addressed to her. This state continued for two months, when Esquirol applied the actual cautery to the neck; this provoked a general irritation and maniacal delirium, which lasted for several days. A month afterwards, the menses reappeared. The patient became convalescent, and her tastes and habits of thought such as they were previous to her illness.

The condition of mind to which the term "Acute Dementia" has come to be especially applied, is the same as that which Georget describes as *Stupidité*. This writer, Ferrus, and Belhomme, regard it as a distinct form of mental disorder, while M. Etoc Demazy and others, consider it as an accident of Insanity or any other disease. Foville defines it as a rapid abolition (it would be more correct to say suspension) of the intellectual, moral, and instinctive faculties, but curable. M. Baillarger has clearly shown that, in a large number of these cases, there is a state of profound melancholy, and that the patient, on his recovery, is able to refer his torpor and apparent dementia to some all-absorbing painful delusion, with which he was impressed. This writer, therefore, regards what has been designated Acute Dementia, or *Stupidité*, as an extreme degree of one form of Melancholia, to which we shall have occasion to refer when we treat of that disorder of the mental faculties, and which he terms *mélancolie avec stupeur*.

A considerable proportion of cases of so-called acute dementia turn out on careful examination, and still more by the light of the subsequent history, to be originally or actually cases of profound Delusional Insanity of a melancholy kind, that is to say, examples of the above-mentioned mental stupor. This has been our experience so frequently that we are rather sceptical as to the occurrence of primary acute dementia being so frequent as is sometimes supposed, many of these cases being, in the first

instance, examples of melancholy delusion. The difficulty of being certain that the patient is demented and not fully alive to what is happening around him, is well illustrated in a patient seen by the writer at the West Riding Asylum under Dr Major's care, to whom we are indebted for full particulars of the case.

Shortly after he was admitted it is noted that "he has been utterly apathetic since his admission, not uttered a single word on repeated questioning, has been obstinate with his food, but has not manifested any delusion or hallucination. Never changes his position, however uncomfortable; allows flies to settle on his face and on a sore on his ear; he stares vacantly at the questioner; he gives slight evidence of understanding what is said to him, and from his general appearance it is considered that he is probably labouring under some profound delusion, and that his silence is due to that rather than to dementia; at the same time it is impossible to assert this at present. He cannot do the slightest thing he is told, even such a simple matter as putting out his tongue. When pinched severely enough to cause pain, he evidently feels it, but makes no effort to withdraw the injured part. In the same manner when the conjunctiva is touched and great annoyance caused, he does not stir a finger to ward off the hand. Owing to his utter silence no further facts can be elicited."

The following facts were obtained from his sister. A year ago was in perfect mental health, and set off with a friend for a holiday in Wales. Two days afterwards, when at an hotel, he remarked that people were remarking his strange look, which was the case. He went to bed, however, as usual. Early next morning he made his escape from the hotel, giving no notice to any one. Three days after, he was found in an excited state near Manchester, and was taken to the asylum. When there his sister found him very melancholy whenever she visited him, and on the last occasion would not speak. It is conjectured that he had a sunstroke when walking, just before the onset of the attack. There appears to have been no intemperance, dissipation, or special grief or trouble. Four months after admission, the note is made that "he is still torpid and his movements slow," and four months still later it is recorded, "His case now presents all the characters of Acute Dementia." In another four months the note is made, "There has been absolutely no change in his mental condition. He continues in the same demented state. Saliva accumulates in his mouth or dribbles down his waistcoat. Hands blue; minute vessels of face dilated; pupils, perhaps, a little dilated." When, about six weeks after this note, the writer saw him, it was impossible to decide with certainty whether there was a delusional or demented state of mind.

One or two circumstances pointed, as Dr Major remarked, to the former view. Thus, he always returned from the shower bath readily, always resisted being taken thither; also on one occasion the attendant saw him actually tie up his clothes with a handkerchief when being put to bed. Notwithstanding these symptoms it was very difficult to Dr Major, on looking at others, to resist the conclusion of dementia.

This patient continued in very much the same condition up to within a short time of his death, between seven and eight months after. At 9.15 on May 12th, 1878, a change took place in his state. He suddenly called the attendant to him, spoke to him by name, and thanked him for all the kindness he had shown him. He spoke rationally to his sisters, said he had been always been conscious of their visits, and, in fine, showed fully that while all the time apparently oblivious of everything, he had, on the contrary, known all that was going on. Asked why he had kept so long silent,

he answered that *the angels would not allow him to speak*, and also said *that his food had been poisoned here*, thus showing a cause for his prominent symptoms—silence and refusal to take food.

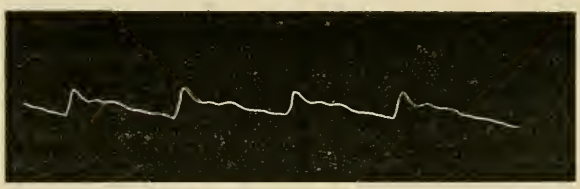
The thought that the food was poisoned seemed to remain with him to the end. He was conscious that he was dying, and at times exclaimed, as if in terror, "Strike me dead, strike me dead." Four hours before his death on the following day he became unconscious, and did not again speak. The cause of death was phthisis, as previously diagnosed. There was decided wasting of the convolutions of the brain, together with intense pallor of the cortex, a condition, Dr Major adds, just like what he has seen in a patient dying from a prolonged exhausting affection without mental disease.

In the following case,* a female, æt. 23, at St. Luke's Hospital, acute dementia supervened on an attack of acute mania.

As the excitement passed away, the mind did not brighten, and she had to be treated as a child. She never spoke. She was fed and dressed, was dirty in her habits, and very obstinate. When we extended her arms they remained for some time in the same position. Her eyes were open, but did not follow the finger when moved in various directions. Touching the conjunctiva caused winking, but no attempt was made to remove the finger. Pupils moderately dilated. Expression blank, apathetic, but lips pursed up, in spite of which saliva flowed down continually. Silent, except occasionally a few monosyllabic words were whispered after much forcing. Her hands were cold and blue; her fingers firmly flexed; exceedingly thin. She has remained in this condition about twelve months.

The following sphygmogram was taken for the writer by Mr Sheldon, Clinical Assistant at St. Luke's. The pressure was 3 oz.

Fig. 1.



A state of delusional insanity passing into a condition which may be regarded as one of Acute Dementia, although it is impossible to say when the former passed into the latter, is illustrated by the two following cases which we have frequently examined at Bethlem Hospital, and for permission to use which we are indebted to Dr Rhys Williams. One of them was often spoken of as the shadow of the other.

A young letter-carrier (C. B—) in London was in usual health when one day a fellow-postman was arrested for stealing letters. C. B— believed him to be innocent, and therefore argued that there was nothing to prevent him sharing the same fate, and under this impression fell rapidly into a state of profound dejection. After being under treatment for some months at home and at Westminster Hospital and becoming

* For permission to examine whom, and see the notes in the case-book, we are indebted to the Medical Superintendent, Dr. Mickley.

worse he was removed to Bethlem. He had been, it was stated, apathetic and cataleptic ever since the moral shock referred to—one, it may be observed, which would hardly have upset a healthy mind. There was no hereditary predisposition to insanity, but a constitutional defect as regards robust mental power. When seen first by the writer he was standing like a statue with his arms by his side; when extended they remained in the same position for a long time. They were not rigid, and were easily brought again to the side. He was perfectly mute, stolid, and did not assist himself in any way. His expression did not indicate mental suffering, and was, perhaps, more apathetic than absolutely vacant. His mouth was open, and the saliva trickled down continually. His circulation was feeble, his respiration slow; his hands cold but not livid; he had no chilblains. He sometimes fed himself, at others it was necessary to feed him. He did not flinch when pinched or pricked. At times when ordered to walk he would do so, and stop at command. His general condition at this time is best described as that of an automaton. In about three months this patient was discharged "but little altered." When we saw him subsequently at home he appeared to be more lively, dressed himself, and spoke in whispering monosyllables, but he relapsed in some months and was removed to Hanwell, where we have recently (June, 1878), examined him. Dr Rayner states that he has improved since admission, but that he is in a mischievous state.

The parallel case (F—) was, as regards the expression of the countenance, more decidedly vacant. The fixed attitude and the cataleptic condition of the muscles when placed in certain positions were, in this case, striking symptoms. His eyelids were nearly closed, and on raising them, the eyes were seen strongly directed upwards; the pupils dilated. The respiration was slow; the breath very offensive; the skin cool, but not so livid as in some patients labouring under this form of insanity. He was extremely anæmic. He required dressing, and did not attend to the calls of nature. The cause of the attack was stated to be family reverses and trouble. About eight months before admission he showed a want of interest in everything, and complained of painful feelings in the head after food. He had, on admission, hallucinations, saw faces in the table-cloth, heard voices which told him to do various things, which he said he must obey; and sometimes said, laughing, that he heard the voices making a succession of puns. Subsequently he did not speak, or at most a few words in a whisper when urged to it.

A year after admission this patient died.* Some time previously the note was made in the case-book, "He is weaker in every way, and will probably die by his lungs. His colour now is most cadaverous; his skin cold and clammy. Mucus hangs about his nose and mouth." As the phthisis advanced the patient became much more sensible, not dirty at night as before, and answered questions. To his relatives he talked freely.

We have no doubt that, after making the deduction required by M. Baillarger's just observations, unquestionable cases remain in which there is a temporary suspension of the mental powers without any absorbing delusion, although comparatively uncommon.

Lastly, there are cases not comprised by Esquirol and other

* For a report of the operation by M. Roussel of transfusion of blood in this case see a communication by Dr Rhys Williams in the 'Brit. Med. Journal,' January 20th, 1877.

writers, under the specific term Acute Dementia, which, however, present symptoms of Dementia of a transient character. We refer to those which are not necessarily marked by any loss of sensibility, or by that mentally prostrate, motionless, and speechless condition which we note as present in genuine instances of Acute Dementia. There is, however, for a certain period—it may be only a few weeks—a state which scarcely differs in anything from the ordinary form of Dementia, except in the fact of its terminating in recovery, and this in a comparatively short period of time. We have recently seen a lady pass from a condition marked by emotional disturbance, to one of complete incoherence, loss of memory, inability to recognise those around her, accompanied by a completely demented physiognomy. The characters of genuine Dementia were present, and a return of coherence appeared higdly improbable; yet, within four or five weeks, her conversation became rational, and her expression of countenance the same as previously.

When Dementia becomes *chronic*, the general description which has already been given of the disease more especially applies.

Ætiology.—The causes of Dementia are various. We have spoken of it as a sequence of General Paralysis and of Mania. It may succeed apoplexy, especially those transient attacks which injure the mind more than the body; epilepsy; intemperance, and the physical and moral causes of other forms of Insanity. Fright is a well-ascertained cause. At the Retreat a patient was admitted in a state of Dementia produced by fright. He was naturally of a timid disposition, and during his apprenticeship his master frequently amused himself with exciting his fears. One evening the servant girl dressed herself up in men's clothes, and opening the shop door, snapped an unloaded pistol at him. This so terrified him that his faculties were immediately injured. He became shortly afterwards almost frantic, and after being out of his mind for about two years, he was brought to the Retreat incurably demented. In speaking of Primary Dementia, we have recorded a case produced by sudden emotion.

Senile Dementia may be regarded as another variety, although when established, it differs little in its symptoms from the chronic form. Among celebrated men at an advanced period of life who have succumbed to this form of mental disease, one of England's most distinguished writers and poets may serve as an illustration of the various incipient symptoms and ultimate

steady progress of senile decay of cerebral power. When sixty-five years of age there was, we are told, in the 'Life of Southey' (vol. vi, p. 386), evidence of defective memory on some points, less acuteness of the perfective faculties, an unaccustomed irritability, confusion of time, and of place, as indicated by his losing his way in well-known places. The vigour of his faculties in general was observed by his friends to be weakened —a gleam or two now and then of his former genius, but at other times a painful absence of his usual animation, perspicuity, and elasticity of mind. His appearance is characteristically described as one of placid languor, sometime torpor, but generally cheerful—all fire and strength gone from his face. We have spoken of the painful consciousness which sometimes marks the first stage of Primary Dementia. So with the poet. He would lose himself for an instant, and, being fully conscious of it, "an expression passed over his countenance which was exceedingly touching, an expression of pain and also of resignation." Then there was the altered step, and the eye fixed, now on space, now wandering anywhere; now turned to his books as he walked round his library, "taking them down mechanically." Recent events, as is usual, were the first to be forgotten, the memory thrown clearly on the far past, and going back further and further, as the mind approached nearer and nearer to its second childhood. When he could not recall a name, he would sometimes (his son states) "press his hand upon his brow and sadly exclaim—'Memory! memory! where art thou gone?'" The final stage was marked by a dream-like state of existence, which extended over the last—the sixty-eighth—year of the poet's life.

As Prichard remarks, Senile Dementia "has been observed frequently to make its appearance in men long engaged in active pursuits, soon after they have relinquished their business or professions, and have laid themselves by to enjoy ease and leisure for the remainder of their days. The disease often appears in a more marked and sudden manner in elderly persons, who have sustained a slight attack of apoplexy or paralysis, which has, perhaps, been speedily recovered from, and might be expected to have left but slight traces of disease. This expectation is verified, so far as the sensitive and motive powers are concerned, but the seat of intellect is found to have been shaken to its very centre." In the instance of Southey, a severe domestic calamity, with forty years' uninterrupted brain-work, combined to induce the condition of mind just described.

Prognosis.—The prognosis must as a rule be most unfavorable. (See p. 135.)

Fever, and acute maniacal paroxysms have, however, occasionally been the means of restoring to reason patients apparently sunk in hopeless Dementia. Of the effects of the former, several instances are on record. (See p. 126.) Such cases prove the fundamental difference which exists between Dementia and Idiocy, in which no feverish excitement of the brain could dispel the cloud and allow of sunshine.

The transient gleam of intelligence occasionally occurring before death is referred by Dr Despine to the principle enunciated by Claude Bernard, that when a histological element dies or tends to die, its irritability auguments before it is diminished. That this does not always occur in Dementia is explained by this writer by the circumstance that the brain-cells are, in the great majority of cases, too much degenerated to exhibit any vitality, and that, therefore, it is only when there is "a sort of paralysis of the histological elements of the brain" that such lightening up before death takes place.

To the influence of maniacal paroxysms, Pinel bears witness. "Many, especially young persons, after having remained several months or years in a state of absolute Dementia, are attacked by a paroxysm of Acute Mania, of twenty, twenty-five, or thirty days' continuance. Such paroxysms, apparently from a reaction of the system, are, in many instances succeeded by perfect rationality." He relates the case of a man in whom Dementia had been induced by over-depletion, and "all the functions of the understanding obliterated." Prior to recovery, "his countenance was flushed, his eyes wild and prominent, attended by febrile excitement, extreme agitation, and at length complete delirium. Thus raised to maniacal consequence, our hero sallied forth, and provoked and insulted every person he met with as he went along. He continued for twenty days in a state of delirious excitement, when a calm succeeded, and the dawn of reason faintly glimmered above the tempest. Moderate employment and regular exercise, co-operating with the energies of Nature herself, restored him, in a short time, to the full enjoyment of his intellectual faculties." We know of a case of Dementia, however, occurring in a young man, in which an attack of Acute Mania that promised much, passed away without any good result.

We add a few sphygmograms taken from patients in a state

of Dementia.* It is necessary to put the student on his guard, however, against supposing that uniformity of character attaches to the radial pulsations observed in different mental conditions. The condition of the heart, the vessels, and the character of the food recently taken must be taken into account. Another source of error is the varying amount of pressure used. At the same time such tracings as the following are not without their value, having all been carefully taken by the same physician.

Fig. 2.

(*a*) In a patient æt. 18.

Fig. 3.

(*b*) In a patient æt. 45.

Fig. 4.

(*c*) In a patient æt. 37.

Fig. 5.

(*d*) In a patient æt. 34.

* From Dr Hun's article "On the Pulse of the Insane," in the 'American Journal of Insanity,' January, 1870.

Fig. 6.

(*e*) In a patient æt 40.

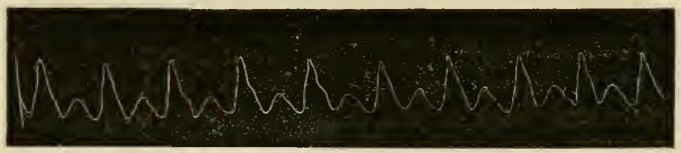
The "Pulsus tardus" regarded by Wolff as associated with incurable insanity nearly resembles Fig. 6.

For the purpose of comparison, we append tracings of the pulse in health, fever, &c.

Fig. 7.

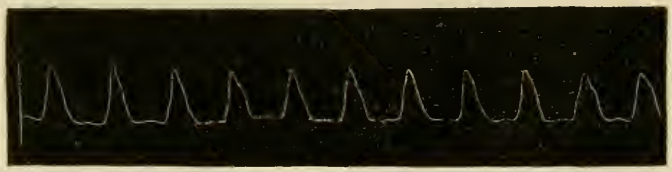
(*f*) The pulse in health (tricrotic), after Marey and Wolff.* (Pulse 64.)

Fig. 8.



(*g*) A dicrotic pulse (110 beats) in a case of fever.

Fig. 9.



(*h*) A monocrotic pulse accompanying increased temperature and frequency of the pulse (140 beats).

SECTION III.—Delusional Insanity.

From Dementia, which, with Idiocy, Imbecility, and Cretinism, belongs to feeble conditions of our intellectual constitution, we pass to DELUSIONAL INSANITY, which, for the most part,

* This and the two following tracings are taken from Dr Wolff's "Beobachtungen über den Puls bei Geistenkranken," 'Allgemeine Zeitschrift für Psychiatrie,' 1867—9.

exemplifies undue intensity of the conceptive and perceptive faculties.

Synonyms and Definition.—The term "Monomania" was employed by Prichard in the foregoing sense. "Monomania, or partial Insanity, is characterised by some particular illusion or erroneous conviction impressed upon the understanding, and giving rise to a partial aberration of judgment; the individual affected is rendered incapable of thinking correctly on subjects connected with the particular illusion; while in other respects he betrays no palpable disorder of the mind."

When there is no morbid perception, but only a false conception, the French employ the expressions *conception fausse, conviction délirante* and *idée fixe.*

Prichard's definition sufficiently describes *intellectual* Monomania, with which, alone, we are now concerned. There is, however, an *affective* monomania; and a Mania without delirium (*i. e.* without disorder of the intellect), or *instinctive* Monomania; these will demand our attention subsequently.

M. Falret *père* has been represented as denying the existence of Monomania; but, although he objects to the term, and inclines to the idea of the mutual dependence or *solidarité* of all the mental faculties, he appears virtually to admit the condition of mind indicated by it, under the head of "partial expansive Insanity." Moreau ignores Monomania altogether; and observes, that we are mad or we are not mad; we cannot be half deranged, or three quarters; full face or profile. Baillarger says, "I believe that the differences among us are chiefly verbal, and that essentially, and in matters of fact, we are very nearly agreed."

The term Monomania was first employed by Esquirol. Previously, the word Melancholia was made use of; the employment of which was objected to by that writer, on the ground that partial Insanity, is not necessarily Melancholia. Dr Prichard makes an objection, to the effect, that had the classic sense of the word "Melancholia" not been lost, its adoption to signify pleasurable as well as gloomy, partial Insanity, would not have appeared paradoxical, for ancient writers attached no idea of despondency, but only madness, to the term. This, however, is scarcely correct; for although, no doubt, the Greeks employed the word somewhat loosely, they did certainly attach the idea of gloom to it, when strictly defining it. Hippocrates, in one of his aphorisms, says, "If fear or distress continue for

a long time, this is a symptom of melancholy."* And, in other places, he distinguishes Melancholy from Mania, by the absence of violence. Sometimes, however, he applies the word to madness in general.

Modern writers, before Esquirol, used the word Melancholy to convey the idea of derangement on some particular point, whether accompanied by gloom or mirth. Thus Cullen included, under Melancholy, "hallucinations about the *prosperous*," as well as "the dangerous condition of the body. Dr Good speaks of "a *self-complacent* Melancholy," and defines Melancholia as an alienation confined to a few objects or trains of ideas, quite irrespective of their depressed or exalted character. It was for melancholy, used in this sense—that is to say, any *partial* Insanity, whether gay or sad—that Esquirol introduced the word Monomania, restricting the term *lypemania* to the state popularly understood as Melancholia. But, even Esquirol's use of his own term becomes rather vague, for he employs it in two senses; the comprehensive one just stated, and that of gay partial Insanity—the *amenomania* of Rush. "In lypemania," he observes, "the sensibility is painfully excited or disturbed; the sorrowful and depressing passions modify the intelligence and the will. The lypemaniac fastens upon himself all his thoughts—all his affections; is egotistical, and lives *within* himself. In Monomania [in the second of the above senses], on the contrary, the sensibility is agreeably excited; the gay and expansive passions react upon the understanding, and the will. The monomaniac lives *without* himself, and diffuses among others the excess of his emotions." In illustration of the former, this writer refers to the case of the woman who did not dare to bend her thumb lest the world should come to an end; and to that of the man who imagined the earth covered with a shell of glass, under which were serpents, and did not dare to walk for fear of breaking the glass and being devoured by them. Under Monomania proper, he introduces those cases in which patients believe themselves to be illustrious personages, as sovereigns, &c. Almost every asylum contains within its walls emperors, kings, or queens. Monomanias, therefore, by Esquirol and the French writers who have followed him, are divided, when they write with scientific precision, into those of a pleasurable kind (*monomania* proper, or *amenomania*) and those of a gloomy character (*lypemania* or

* Ην φόβος ἡ δυσθυμία πολὺν χρόνον διατελέη, μελαγχολικὸν τὸ τοιουτον.

melancholia). To them, in their relation to the emotions, we shall have to recur when we come to treat of these forms of mental disease. "In our opinion," observes M. Baillarger, "the word Monomania best designates all the cases of partial delirium with a dominant series of ideas, whatever may be the accessory phenomena, the number or variety of false secondary ideas." A fixed idea in fact, like the delirium of Mania, like hallucinations, the result of the involuntary exercise of the faculties, overcomes the will, in consequence of a diseased condition of the brain." "Monomania is specially indicated by delusion."

To the consideration of Delusions in general, we must now direct our attention.

There are several terms made use of by psychologists, of which it is necessary to have a clear understanding, but, regarding which, unfortunately, great confusion exists among writers on Insanity. We refer to the terms hallucination, illusion, and delusion. The words themselves do not convey to the mind the sense in which they are employed. If we consult Johnson's 'Dictionary' we find under *hallucination*, the following definition, "error, blunder, mistake, folly;" while *illusion* is defined to be, "mockery, false show, counterfeit appearance, error;" and *delusion*, "a false representation, illusion, error, a chimerical thought." From these definitions, which are certainly not remarkable for their discrimination, we may, however, infer that the lexicographer recognised the distinction between the first and the other words, to consist in the former being simply a state of passive error, while the latter imply the causing others to err. This is consistent with the sense attached by Latin writers to the verbs from which they are derived.

Cicero says—

"Quæ Epicurus oscitans *alucinatus* est."

And Virgil—

"Circumfusa ruit, certantque *illudere* capto."

In another place he says—

"Aut quæ sopitos *deludunt* somnia sensus."

Hallucinor, or allucinor (more correctly *al*), is derived, by Dr. William Smith, from $\alpha\lambda\upsilon\omega$, $\alpha\lambda\upsilon\sigma\kappa\omega$, and is thus rendered in his dictionary, "to wander in mind, to mistake," &c.; while

illudo is "to play upon, to ridicule;" and *deludo*, "to play false with, to mock, to delude."

Hence, *illudo* and *deludo* are, classically, synonymous, and differ from *hallucinor* in signifying to deceive, or to illude. When there is deceiving, an agent that deceives is implied; and it has probably been in this way that the meaning attached to the words illusion and hallucination, about to be mentioned, has originated.

A man, may be labouring under an error in three principal ways:

An object may appear to be present before his eyes (to take, in illustration, the sense of sight) which has no existence whatever there: he experiences sensations, although no material objects act upon the senses at the time. (Hallucination.) If unable to recognise their true character, when an appeal is made to reason, he is also insane.

Secondly, an object may appear to his eyes in an entirely different form from that which it actually has. Here the sensations are produced by the false perception of objects. (Illusion.) If unable to recognise their true character, when an appeal is made to reason, he is also insane.

Lastly, a person may (independently of *false inductions*) have certain false notions and ideas, which have no immediate reference to the senses as in the two preceding instances; as, for example, when he believes himself or some other person to be a king or a prophet; or that there is a conspiracy against his life; or that he has lost his soul. Or, as another example, he may believe himself to be a tea-pot, without seeing or otherwise perceiving any change in his form.

In all examples under this last head, a man is necessarily insane. He cannot have a false belief (not simply a false induction, but) the result of disease, and unconnected with the senses, without the mind being unsound.

"Delusion" is generally used by English writers to include all these various errors so long as they are not corrected by the understanding. This, however, need not prevent our clearly recognising the scientific distinctions which have been pointed out, and which in psychological literature, may with great advantage be admitted. But while the word delusion may be employed in a general sense to comprise all these divisions, the phrase delusion *proper* would naturally imply any error which is neither an illusion nor a hallucination, and those false ideas or

notions which do not, strictly speaking, involve sensation. In this sense Delusional Insanity includes hallucinations and illusions, whenever they involve the reason.

Instances, however, will occur, as has been already intimated, in which a difference of opinion will exist as to the class to which they ought to be referred. In the example referred to of a man believing himself or any one else to be a tea-pot, Brierre de Boismont would say that he was labouring under an illusion; but such a case would appear to us more properly referable to the third class, that of false notions or conceptions.* There is no false sensation; unless, indeed, we follow Condillac, who regarded imagination itself as only a mode of sensation, and held that "sensation embraces in itself all the faculties of the soul." The only practical course is to consider in each case, whether there is a false sensational perception, be it visual, auditory, olfactory, gustatory, or tactile.

Again, Brierre de Boismont gives, as an example of illusion, an individual believing that an entire stranger is his wife, or Napoleon Buonaparte. In the majority of such cases, however, there need be no illusion of any of the senses. Thus, a lady, who, when she was insane, believed a particular person to be the Enemy of mankind, informs us, that his appearance was then in no respect different from what it is now; but the patient added, "*Ideally*, he seemed nothing but Satan." On our asking whether she was not surprised at the individual not having the external form vulgarly attributed to Satan, she gave a reply, which was, doubtless, the correct scientific explanation of the fact, "I do not think I had enough reasoning power to be aware of any inconsistency in my belief."

It may here, also, be remarked, that while in genuine illusion and hallucination, no appeal to the reason, even if that appeal succeed in producing conviction, alters the *appearance* of the object; in delusion proper, once convince the patient of the absurdity of his belief, and the disorder itself entirely vanishes.

The following case is a good example of Delusional Insanity, and his recovery illustrates the truth of the above remark.

* Esquirol, in reference to such cases, speaks of persons losing their *personal identity*. But this sense is, in reality, no more lost than when the delusion has regard to some extraneous object. In fact, Brown draws one of his strongest arguments in favour of the universality of the consciousness of personal identity from the fact, that "even the very maniac, who conceives that he was yesterday emperor of the moon, believes that he is to-day the very person who had yesterday that empire."— *Philosophy of the Human Mind*, p. 83.

A man thought that his legs were made of glass. His servant, we are informed, "bringing one day some logs of wood to mend the fire, threw them carelessly down; for which her master, who was terrified for his legs of glass, severely reprimanded her. The surly maid, who was heartily tired of her master's insanity, gave him a smart blow on the leg with one of the logs, which hurt him a good deal, and so provoked him that he rose from his seat (from which he never walked for fear of breaking his legs) in a violent hurry, to revenge the insult. Soon after, when his anger was abated, he was happy to find that his legs were able to support him; and his mind was from that time perfectly freed from this absurd imagination." (Van Swieten; and Arnold, vol. i, p. 127.)

Patients have believed themselves transformed into wolves (lycanthropia), dogs (cynanthropia), lions, cats, cows, sparrows, cuckoos, earthen vessels, pipkins, jars, tea-pots, &c. Some have supposed themselves to be grains of wheat, and have been for ever in apprehension lest they should be so unfortunate as to be eaten up; and a lady is recorded to have believed herself to be a goose-pie. It is related of a man, that he believed himself to be Atlas, supporting the world on his back, and was in great dread lest it should fall and crush, not only himself, but all mankind to atoms. (Op. cit., pp. 124, 129, 133.)

At St Luke's Hospital Dr Mickley recently pointed out to us a patient who believed himself to be a steam engine, and mimicked one in motion.

Others believe they are gods, sovereigns, or prime ministers, and afford examples of "Delusional Insanity, of an exalted character" (see p. 49), although we cannot too often repeat that the delusion may be merely the indication of the condition of the affective faculties. To these we shall return when we speak of Monomania involving the Emotions. We may here refer to a case coming under our own cognisance in which the delusion was of this character:

A foreigner believed himself to be Jupiter, and made a great disturbance in the church at Falmouth, in December, 1860. In the midst of the evening service he rose from his seat, and rushed, stick in hand, through the church, shouting in a very excited manner, "St. Pierre! St. Pierre! St. Pierre!" In broken English he exclaimed that he had come there to sleep, and that JUPITER might as well sleep there as in a barn. When removed from the church by the mayor and other gentlemen, his hat, stick, and a roll of papers were left behind. The following was written upon one of his papers:

Geniology.
Albert and Victoria.
JUPITER.

We learn from Benvenuto Cellini's autobiography, that—

The governor of the castle, in which he was confined, "had annually a certain periodical disorder, which totally deprived him of his senses, and when the fit came

upon him he was talkative to excess. Every year he had some different whim; one time he conceived himself metamorphosed into a pitcher of oil; another time he thought himself a frog, and began to leap as such; another time he imagined he was dead, and it was found necessary to humour his conceit by making a show of burying him. Thus had he every year some new frenzy. This year he fancied himself a bat, and when he went to take a walk, he sometimes made just such a noise as bats do; he likewise used gestures with his hands and his body, as if he were going to fly." (Vol. i, p. 339.)

In all these examples, there appears scarcely to be implied a morbid sensation; at the same time, in some of them, the false idea may have originated in a morbid sensation. This may, perhaps, be suspected when a man believes himself to be made of butter, wax, &c. The case of the man who believed his legs were made of glass, would by many be called an example of illusion; but we do not think rightly so. He might not, in the proper sense of the word, *feel* that his legs were vitreous; he would probably conceive them to be so, but he would not, we imagine, contend that they *looked* like glass. In any one instance, however, in which the patient does so feel or see, the term would, doubtless, be correctly applied. When a man, after amputation of the leg, feels it still to be there, he unquestionably does so from false sensations, which, however, he corrects by the testimony of his other senses.

We know of a case in which the patient, who was always suspecting plots against his life (*Monomania of Suspicion* or *Persecution*), used to thrash the hedges and beat the walls with his stick, under the impression that they were his enemies. It is possible the walls and the hedges really assumed in his excited imagination the forms of his supposed foes; but it is much more probable that there was no actual illusion of the visual organs.

Another remarkable case of Monomania of Persecution will be referred to under Hallucination.

The following is a case which will at once serve forcibly to illustrate the strange delusions to which patients are subject, and also the ill-defined boundary line which often separates a false conception, or intellectual belief, from an illusion. It affords an example of "Delusional Insanity of a melancholy character" (see p. 49). Probably, by some, it would be regarded as an "illusion of hypochondriasis;" but we think it is, at least in some of its features, illustrative of Delusion proper.

A patient at the York Retreat gave this description of himself: "I have no soul

I have neither heart, liver, nor lungs; nor anything at all in my body, nor a drop of blood in my veins. My bones are all burnt to a cinder; I have no brain; and my head is sometimes as hard as iron, and sometimes as soft as a pudding."

Another patient, equally deranged, thus described him in verse:—

"A miracle, my friends, come view,
A man, admit his own words true,
Who lives without a soul;
Nor liver, lungs, nor heart has he,
Yet, sometimes, can as cheerful be
As if he had the whole!

"His head (take his own words along)
Now hard as iron, yet, ere long,
Is soft as any jelly;
All burnt his sinews, and his lungs;
Of his complaints, not fifty tongues
Could find enough to tell ye.

"Yet, he who paints his likeness here,
Has just as much as him to fear;
He's wrong from top to toe:
Ah! friends, pray help us, if you can,
And make us each again a man,
That we from hence may go."

The expressions "hard" and "soft" would appear to imply that the patient experienced such sensations, and therefore this latter error we should refer to the head of illusion; but the error the patient had fallen into, in regard to the loss of his soul, &c., belongs surely to a different class—to that, namely, of false conceptions, independent of any sensation properly so called.

Many examples of lycanthropia (to which reference has been made) are on record, although an extremely rare disease at the present day. It was recognised by ancient writers. "Those labouring under lycanthropia," says Paulus Ægineta, "go out during the night, imitating wolves in all things, and lingering about sepulchres until morning. You may recognise such persons by these marks: they are pale, their vision feeble, their eyes dry, tongue very dry, and the flow of the saliva stopped; but they are thirsty, and they have incurable ulcerations from frequent falls." Haly Abbas described a disease, which he called *melancholia canina*, observing, that the patient delights to wander among the tombs, imitating the cries of dogs.

This remarkable disorder spread throughout Europe in the fourteenth and fifteenth century. "Those suffering under wolf-

madness and dog-madness, abandoned their homes to resort to the forests, allowing their nails, hair, and beard to grow, and carrying their ferocity so far as to mutilate and sometimes to kill and devour children. In the year 1591, Peter Burgot, Michael Verdun, and another, were tried for this strange affection and pleaded guilty. Peter Burgot avowed that he had killed a youth with his wolf-paws and teeth, and would have eaten him, if the peasants had not given him the chase. Michael Verdun admitted that he had killed a little girl gathering peas in a garden and that he and Burgot had killed and eaten four other girls. These three unfortunate persons were all burned alive." ('Des Hallucinations,' p. 327.)

When visiting the asylum of Maréville, Morel told us of a patient, the youngest of five brothers, who had all been insane, whose condition was as follows:—"He was a prey to the most fearful apprehensions of future punishment for imaginary crimes; all his limbs trembled while he implored the assistance of Heaven and of his friends. Soon after, he rejected every attempt made to console him, and all his thoughts became concentrated upon one idea. He thought he was a wolf." "See this mouth," he exclaimed, separating his lips with his fingers; "this is the mouth of a wolf, these are the teeth of a wolf; I have cloven feet. See the long hairs which cover my body; let me run into the woods, and you shall fire at me with a gun." Some time after this, when in an improved condition, he enjoyed nursing some children; but scarcely had they left him when he exclaimed: "The unfortunates! they have embraced a wolf." At another time he refused to eat his meals, but said: "Give me raw meat, for I am a wolf!" His wish was complied with, and his mode of eating was altogether like an animal. He shortly died, however, much emaciated, the victim, to the last, of this strange and terrible conception."

Esquirol states, on the authority of Calmet, that in a convent in Germany, the monks believed themselves changed into cats, and that, at a certain hour of the day, these monks capered about the convent, mewing as fast as they could. One of the *Convulsionnaires*, Pinault by name, barked like a dog, and was, as might be expected, soon followed by others. Recently, in a Paris asylum, a patient believed himself to be a horse, and neighed like one. The writer examined a patient recently (1878) in the Essex Asylum who believes himself to be a horse. His occupation was not connected with the care of horses, being that of a gardener. He was admitted labouring under melancholia. Some time after, this delusion suddenly developed. When seen by the writer, he neighed like a horse, pawed with his foot upon the ground, and pranced about when Dr Amsden made the clicking sound which drivers are accustomed to use to their horses. A young woman, now at Bethlem Hospital, believes she is turned into a dog. She

says she smells like one, and that her eyes do not look as they used to do. Refuses to take food, saying that dogs do not require to eat. This delusion was elicited some time ago; at present she is silent when interrogated. Mr T. Bond, of London, informs us that when medical officer to St George's Union he had under his charge a patient who believed himself to be a dog, and under this delusion not only barked, but would even micturate in a characteristically canine manner.

A delusion is very frequently the last symptom in the succession of morbid mental phenomena; in truth, it may be but the reflex of an emotion; and though, strictly speaking, an intellectual disorder, it may be the result, and merely the symptom, of a disorder of the feelings. Emotional Insanity, indeed, not uncommonly terminates in well-marked delusional disorder. The delusion of being a royal personage may be an intellectual conception and yet the offspring and the index of uncontrollable pride; and in the foregoing case, the belief in the transmutation into a wolf was intimately associated with a depressed state of the feelings—with Melancholia. So with a lady at Bethlem Hospital, who described to the writer how, after family troubles, she became depressed, and then by insensible degrees began to believe that she was to be thrown into boiling water under the ground, and then "thrashed alive." Whenever the night-watch entered her room, she thought that her hour had come, and was in great trepidation. At last she grew resigned to her hopeless fate, and she considers this was the begining of the recovery which followed, aided by removal to another ward.

The same observation applies, with even greater force, to another so-called Monomania; the disorder in which the patient conceives himself to be demoniacally possessed. Dæmonomania, in the vast majority of cases, has been but a symptom of disease of the affective faculties; so complex are the phenomena of diseased mind, and so completely do they set at defiance any rigid system of psychological classification.

Paulus Ægineta, after speaking of madmen who fancy themselves to be brute animals and imitate their cries, and of others who conceive themselves to be earthen vessels and are frightened lest they be broken, adds:—"Some believe themselves impelled by higher powers, and foretell what is to come as if under divine influence; and these are, therefore, properly called demoniacs, or possessed persons." This description, however, although it may have included, does not exactly describe more

modern cases of Dæmonomania—in which the patient is much depressed, pretends to no supernatural knowledge, and is firmly convinced either of being possessed by, or actually transformed into the devil.

A patient under Esquirol's care thus described herself:—"The devil has taken from me my body, and I have no longer a human shape. There is nothing so dreadful as to appear to live, and yet not be of this world. I burn—sulphur exhales with my breath. I neither eat nor drink, because the devil has no need of food or drink. I feel nothing; and, should I be placed in a terrestrial fire, I should not burn. I shall live millions of years; that which is upon the earth cannot die. Were it not so, despair would have caused me long since to terminate my existence."

"Nothing," says Esquirol, "undeceives her, and she is abusive in her language to those who seem to doubt the truth of what she affirms; those who contradict her she calls sorcerers and demons. If they insist upon the correctness of their opinion respecting her, she becomes irritated, her eyes project, and are red and haggard. 'Look, then,' she says, 'at this beautiful figure; is it that of a woman or a devil?' She strikes herself violently with her fist upon her chest. She pretends, also, to be insensible; and, to prove it, pinches her skin with all her might, and strikes her chest with a wooden shoe. Still, she manifests pain when not forewarned. This woman is tranquil, is not mischievous, and speaks rationally upon every other subject, when we can divert her thoughts."

The writer we have just quoted from states that, out of twenty thousand insane persons who had passed under his observation, he had "scarcely seen one in a thousand stricken with this fatal disease." He suggested, that the term *Cacodæmonomania* should be employed; as the ancients did not use the word demon, necessarily, in a bad sense; while he would apply that of *Theomania* to those cases in which the patient believes himself to be the Deity, or Jupiter as in the case just given as occurring at Falmouth.

Examples of Dæmonomania, and of other delusions, might be multiplied; those we have mentioned are, as it appears to us, mainly referable to the third division—that of delusion proper, although it is impossible to deny that in some instances a morbid sensation may have formed the basis of the delusion.

Several of the examples already cited, are usually regarded as hypochondriacal illusions. To this division the following case would, by some writers, be referred; but, however hypochondriacal the patient was, his particular delusion was rather a false notion than perverted sensation. The melancholy under which he laboured was father to the thought. If "electro-biologists" can make a man disbelieve his own personality, in certain susceptible states, and fancy himself metamorphosed into some other person, by the law of suggestion, as explained by

Dr Carpenter, cannot melancholy feelings suggest such ideas or beliefs as these?

"A young hypochondriac," relates Arnold, "had a strong imagination that he was dead, and did not only abstain from meat and drink, but importuned his parents that he might be carried to his grave and buried, before his flesh was quite putrefied. By the counsel of physicians he was wrapped in a winding-sheet, laid upon a bier, and so carried on men's shoulders towards the church; but, on the way, two or three pleasant fellows (hired for that purpose), meeting the hearse, demanded aloud of them that followed it, whose body it was that was then coffined and carried to burial? They said it was a young man's, and told his name. Surely, replied one of them, the world is well rid of him, for he was a man of very bad and vicious life, and his friends have cause to rejoice that he hath ended his days thus, rather than at the gallows. The young man hearing this, and not being able to bear such injury, roused himself up on the bier, and told them they were wicked men to do him that wrong he had never deserved; that, if he were alive again, he would teach them to speak better of the dead! But they proceeding to defame him, and to give him much more disgraceful and contemptuous language, he, not able to suffer it, leaped from the bier and fell about their ears with such rage and fury, that he ceased not buffeting them till quite wearied." The result of this excitement was perfect recovery within a few days.

There is at Bethlem Hospital a young man who avers that he is dead. When a recent note was made of him, he muttered something about a coffin. When pricked, he admitted he felt it, but that it would not cause blood; when shown a drop, would not admit his vitality. Said the writer was warm, he cold. He believes he has been the means of making everyone diseased since he has been at Bethlem, through their inhaling the breath of a corpse. He has laboured now under this delusion for a year. He states that he knows the particular day he died, namely, after a slightly relaxed operation of the bowels.

In the succeeding observations on False Sensations we shall speak of them as they arise in various forms of mental disease as well as Monomania or Delusional Insanity.

False Sensations.—We will first take *hallucinations.*

What a student has primarily to bear in mind is that the same sensations may result from the internal as the external world; that in short the same nervous track may be traversed by subjective as by objective sensations, in the reverse order. This is the fundamental truth lying at the bottom of all hallucinations.

Hallucinations were not regarded by Esquirol as caused in any instance by morbid conditions of the organs of sense, but as strictly cerebral, that is, mental in their origin. "The senses" he says, "are not concerned in their production; they occur although

the senses do not perform their functions, and even though they no longer exist." This, of course, is quite true. It may be well doubted, however, whether there is sufficient reason for thus restricting the term, inasmuch as one individual may perceive an object which has no present existence (his mind becoming secondarily affected) in consequence of a diseased condition of the optic nerve in the first instance; and another may perceive an object which has no present existence in consequence of primarily mental—that is, cerebral—disease. Dr Foville, indeed, states that he discovered lesions of the nerves in patients who had been the subjects of hallucinations,—a circumstance Esquirol was inclined to attribute to coincidence. Baillarger, moreover, has distinctly recognised this possible duplex origin of hallucinations, which he has divided into *psycho-sensorial*, or those which originate in the combined action of the imagination and the organs of sense; and *psychical*, or those which are the consequence of a disordered mental condition, without disease of the senses. Brierre de Boismont considers that these distinctions depend upon the degree of intensity of the phenomena. Referring to hallucinations of the sense of hearing he says: "If the perception be feeble, the hallucination is without noise; if it be more intense a sound is heard." And he thinks "the sound is heard, not from extension of the disease to the senses, but because certain conventional signs, always associated with certain ideas, are recalled when those ideas are produced with great vividness." Thus he defines a hallucination "the perception of the sensible signs of an idea." "With the reflective man, it is the highest degree of tension at which his mind can arrive—a true ecstacy. In societies with profound convictions, where the imagination is not rectified by science, it is the reflection of a general belief; but, in these two cases, it does not offer any obstacle to the free exercise of reason." In such instances, Brierre de Boismont would call them *physiological* hallucinations, as distinguished from those which are accompanied with unsoundness of mind, the *pathological*. This view of the subject, as he observes, "leaves on their pedestal the statues of illustrious men, whom some would wish to throw down into the abyss of Insanity."

It is important not to forget, as has been already intimated, that hallucinations may exist without Insanity. Thus, Andral, on entering his room, distinctly saw, for a quarter of an hour, the corpse of a child which he had dissected a short time

before. Johnson, one day at Oxford, when he was turning the key of his chamber, heard his mother distinctly call "Sam," although she was then at Lichfield. We approach in the following instances the border-land of Insanity, but in such cases the opinions of an individual, apart from disease, must be taken into consideration. For a Spiritualist, for instance, to believe that he sees his guardian angel is no proof of Insanity. Jerome Cardan the physician, and Erhard, both believed that they were attended by a supernatural personage. Erhard's guardian was always attired in a black cape. Napoleon was said to have interviews with a familiar spirit in the form of a little red man; and, on better authority, we are informed that he saw his star. "I see it," said he, "in every occurrence; it urges me onward, and is an unfailing omen of success."

Now that we are engaged in considering the disorders of the mind, we discard the use of the term in the physiological sense, and restrict it to the perception, along with evidence of cerebro-mental disease, of objects which, at the time, have no existence; this false perception being either the consequence of the combined disordered condition of the mind *and* one or more of the senses (psycho-sensorial), or of the mind only (psychical).

In regard to their frequency among lunatics, Esquirol says that of 100 insane patients, 80 have hallucinations. Brierre de Boismont states, that out of 62 patients in his asylum, hallucinations were present in 38 instances. With 18 monomaniacal patients, sight and hearing were involved in 8, taste and hearing in 1, hearing alone in 2, and sight alone in 1. Of 66 cases of Monomania, admitted during one year into the Bicêtre, 35—or one half—had hallucinations; namely, 19 of hearing, 11 of sight, 3 of taste, 1 of touch, and 1 of the internal organs. Melancholia affected 21 out of the 66 monomaniacs, and of these 11 had hallucinations; 6 being of hearing, 3 of sight, and 2 of taste.

In Mania, hallucinations are frequently present. The writer last quoted, states that of 181 maniacs, 23 had hallucinations of hearing, 21 of sight, 5 of taste, 2 of touch, 1 of smell, and 2 of internal sensations. Hallucinations are also frequently observed in Puerperal Mania.

In the calier stages of Dementia, we meet with these phenomena; also, occasionally, in General Paralysis. An instance is on record, in which the patient had almost lost the power of speech; at times, however, he was able to make those around him understand, that he could see a shark beside him ready to

devour his body. A patient now in the York Retreat, labouring under Dementia, is the subject of the same hallucination. On retiring to rest, he is frequently alarmed by the appearance of a shark by his bedside.

In regard to the relative liability of the senses to hallucinations, although among the sane, those of sight are frequent; among the insane, those of *hearing* appear to be decidedly the most common. They are estimated to form two thirds of the whole number. They appear to be most generally experienced when the patient is falling asleep; partly, no doubt, in consequence of the less degree in which, at such times, the attention is fixed, or the comparing faculty exercised. Of 144 cases of hallucinations, 62 are stated to have been in the night, 50 in the day, and 32 during both. A patient at the York Dispensary used to complain bitterly of a voice repeating in his ear everything that he was reading; and, on one occasion, he distinctly heard the same voice commanding him to throw himself into a pond in his garden. He obeyed the voice; and, when removed from the water and asked why he had done so rash an act, he replied, that he much regretted it, but added, "*He* told me that I must do it, and I could not help it." We know a case in which the patient believes he can at any time communicate with or consult an absent relative. Often when asked a question, he appeals to this individual before replying, and receives, as he imagines, a distinct answer by which he is entirely guided. A patient at the Retreat used to believe she heard some one ordering her to seize the property of other persons. She accordingly did so, and would not restore the stolen goods, unless, as she imagined, the voice permitted her. In another case, a lady heard voices which told her that if she committed certain acts, or omitted to do others, she would have her right breast and her head cut off. As these punishments were often to be inflicted by those around her, she became much incensed at the attendants when they refused to comply with her wishes. Signs of amendment appeared in about three months after admission, and she ultimately recovered. The poet Cowper was distracted by hallucinations of the sense of hearing. "The words," says his biographer, "which occurred to him on waking, though but his own imaginations, were organically heard; and Mr Johnson, perceiving how fully he was impressed with a belief in their reality, ventured upon a questionable experiment. He introduced a tube into his chamber, near the bed's head,

and employed one, with whose voice Cowper was not acquainted, to speak words of comfort through this conveyance." It is a remarkable proof how real such hallucinations appear, that this hazardous artifice was never discovered. It does not, however, seem to have been productive of any benefit. His medical attendant one day found him with a penknife sticking in his side, with which he had attempted self-destruction, believing he had been ordered to do so by a voice from heaven.

In a patient in the York Asylum, an old monomaniac and an inveterate scribbler, some of whose composition is now before us, the medical superintendent, Dr Needham, could never discover the slightest craze except on the point described by him in the letter quoted further on. His brother had the same delusion, and cut his throat under its influence.

In this letter, which extends over twenty-three large and closely written pages, he accuses sundry persons of conspiring against him to prevent him sleeping at night, and he gives numerous conversations, which he says he heard, proving that his suspicions were well founded. He drew correct inferences from false premises. He says that the men Walker and White originated a system by which they prevent him sleeping in the night.

"From the mental connection and bodily sympathy between White and me, there is no need for him but to *breathe low a succession of formed words*, as long and as often as he pleases, which words consist of remarks directly and indirectly on my thoughts, of which he is perfectly conscious. Owing to this system I am obliged perforce to hear whatever he says, almost at any distance. Thus, while he is lying in bed in his own bedroom he carries on this system a great part of each night, and keeps me awake till by some chance or other I fall asleep. Both Walker and White have intended by this system to make me actually insane, by depriving me of sleep as much as they possibly could, or to present such an appearance as if I had *naturally* sleepless nights, without either of them being supposed to have had anything to do with it. White himself gets as much sleep as he can during the day, in order that he may carry on this system during the night, and carry on his work in the kitchen during the day as usual, sedulously keeping up all external appearances so as to evade suspicion from any quarter. This was just the way Walker acted. If I myself attempt to get any sleep during the day to repair the deficiency of the night, White, from knowing my thoughts, knowing also what I do or intend to do, resumes this system and effectually prevents me. . . . . Henry and Edward Harcourt, who have been in mental connection and bodily sympathy with me before and since I have been in this asylum, and have at the distance of a mile or so round this asylum and York, for about twenty-one years, carried on the same system as Walker and White have carried on, and have been occupied every day, from morning till late at night, with making remarks directly and indirectly on my thoughts, of which they have a perfect cognizance, while retaining their own individual consciousness, and which, owing to my rapport with them, I am obliged perforce to hear, are necessarily placed in the same position with regard to White as I am. Henry and Edward

Harcourt are in rapport with me, and White is in rapport with me. Whatever remarks on my thoughts H. and E. H. make to me, at whatever distance, White hears Whatever remarks on my thoughts White makes to me, at whatever distance, H. and E. H. hear. Henry and Edward Harcourt are conscious of and hear every word White says to me, and besides carrying on this system on their own account, they repeat after White, when he operates on me, separately and simultaneously, every word he says. At the distance of a mile or two they make their remarks, *in their own distinct voices*, which I, owing to my mental connection and rapport with them, am compelled perforce clearly to recognise and hear. I put down with careful selection some remarks made by White on various occasions in the course of his carrying on this peculiar system.

" 'There's something about *this way of going on*, that I didn't think but what you'd be thought out of your senses if you said anything about it. I haven't been thought of, as if I'd anything to do with it; I thought you'd want to get away from this asylum without saying anything about *Walker and me going on in this way*.'

" 'You shall not sleep to-night if I can help it; you haven't a leg to stand upon, when you say anything to the doctor, about *this way of going on*. Nobody knows anything about it.' "

"I could, of course, multiply this kind of internal evidence to any extent, but I have given sufficient examples of it now and aforetime in the case of Walker to prove that he and White have been engaged in a conspiracy against me, which has done me great injury."

Next in frequency to hallucination of hearing are those of *sight*. All visionaries afford examples. The remarkable narrative of Cellini contained in his autobiography, illustrates this form of hallucination, as well as that of hearing. A lady at the Retreat had visions, in which she believed she held intercourse with supernatural personages. Ideas of great family consequence succeeded, and she imagined she was the heiress of very large property. Of this she would give the particulars on paper, and that in so rational a manner, that to any one unacquainted with her actual circumstances, her account appeared perfectly sensible. These delusions led into many acts of impropriety. Her general habits, however, were orderly, and she was capable of conversing or writing rationally, except when she touched upon the subject of her visions or her property. She assumed a great deal of consequence, but did not display it in her attire, which was remarkable for its neatness.

Another lady (under our care) informed us, after her recovery, that she had repeatedly seen her (absent) husband playing at chess in the room in which she was sitting. The chessmen, &c., were exquisitely distinct.

Hallucinations affecting the sense of *touch* are not very common. Patients sometimes complain of experiencing electric shocks; at other times, they fancy they are struck by

imaginary beings. Hallucinations of this sense require carefully distinguishing from neuralgic affections. We have known a case in which a gentleman supposed that "electric fire" passed out from his eyes and ears, and that his bedroom was filled with it at night. He charged his friends with being the cause of it.

Hallucinations of *smell* are rarely met with uncomplicated with disorder of one or more of the other senses. Patients do, however, sometimes complain of very bad odours, and at others of very pleasant ones, without other hallucinations. We had a very good example of the former in an insane patient, some time since, who complained exceedingly of the injury done to her health by the sulphurous fumes with which some one, as she believed, continually filled her room.

Lastly, the sense of *taste* is but rarely affected alone. Patients who believe they are taking poison in their food are not usually examples of this class.

Hallucination of one sense is less commonly found than hallucination of several.

Sometimes, but rarely, all the senses are involved. The following is a remarkable illustration of this, occurring in a poor woman in York, under the writer's care. ('Monomania of Persecution.')

She is firmly convinced of the existence of a persecuting fellow in a room above her own, who vents all his malignity upon her by means of certain machinery and wires. By the former, he manufactures a quantity of tow, which she sees "whirling round from the ceiling;" and by the latter he torments her in the most cruel manner. He "brays" her in the night with three of these wires, so that she is stiff in the morning, and covered with marks "as if she had been switched," and the difficulty of rising is often increased by "skewing her down in bed." At another time he will thrust three wires into her mouth, which leave "a very bitter verdigris *taste*" therein. She protests that she can see a "hole like the cut of a knife" in one corner of the ceiling, through which he introduces the wires, and she says, "When I try to get hold of them, he soon has them away." He also delights to send her to sleep "with that chloroform," which she *feels* dropping from the ceiling upon her cap; in addition to which she has, in consequence, enveloped her head in a couple of handkerchiefs.

As regards the sense of sight, she has only once or twice *seen* her persecutor; but when she wanted to speak to him, he turned away. He is a middle-sized and middle-aged man. She says, however, very naturally, "I feel him over much to want to see him."

She *hears* him more frequently than sees him; hears him "nestling about the room;" she also hears the wires pushed through the ceiling; and she has stopped her clock, and covered it up, because he used to employ his wires to make it strike some twenty times in the night, in order to disturb her.

Her sense of *smell* is at present free; formerly she was much annoyed in this respect also.

Hallucinations may be continuous or intermittent; they may, although rarely, be at the will of the individual, so that he can recall them at pleasure; they may have one character to-day, and another to-morrow; in some cases, in which the sense of sight is hallucinated, closing the eyes will dispel the affection. Sometimes a patient hears sounds only through one ear, or sees imaginary objects only through one eye, the other eye and ear being unaffected. Again, the number of voices heard will vary; in some instances an animated dialogue is sustained with all the force of reality; in others two or more distinct voices are recognised by the patient; and a linguist will occasionally hear voices in different languages. It is of the utmost importance to ascertain the *character* of the hallucinations; for on this will often depend the danger which attaches to them and the necessity for the deprivation of the patient's liberty. It is obvious that "Delusional Insanity, of a destructive character" (p. 49) must demand the very greatest care; that a man who hears a voice commanding him to commit an act of violence towards others, or to destroy himself, requires strict watching or confinement; whilst a man who hears a voice proclaiming only his rank and wealth may be harmless, and require no restraint whatever. Regarding the subject from a medico-legal point of view, an inquiry into the existence of hallucinations will often afford a key, as Brierre de Boismont has well pointed out, to numberless determinations, singularities, and actions, totally unexplained by, and at variance with, the character, the manners, and the habits of the individual.

Illusions.—These have already been distinguished from hallucinations, by the existence, in the former, of something internal or external to the body, which is the basis of the illusion. In the most perfect state of mental health, we are subject to certain illusions; but here, as Esquirol observes, "Reason dissipates them. A square tower, seen from a distance, appears round; but if we approach it, the error is rectified. When we travel among mountains, we often mistake them for clouds. Attention immediately corrects this error. To one in a boat, the shore appears to move. Reflection immediately corrects this illusion. Hypochondriacs have illusions which spring from internal sensations. These persons deceive themselves, and have an illusion respecting the intensity of their sufferings, and the danger of losing their life. But they never attribute these misfortunes to causes that are repugnant to

reason. They always exercise sound reason, unless Melancholia is complicated with Hypochondriasis."

Illusions, like hallucinations, may affect any one of the senses separately, or all of them. Those of *sight* are the most frequent; those of *hearing* are the next in order; but some observers state that they are as common as the former.

A gentleman, to whom we may here refer, afforded an interesting example of visual illusion.

Every person he saw at L—— (in Yorkshire), where he lived, presented a different appearance from the reality. His friends, who resided in another town in the same county, removed him to their own home. As they travelled, they endeavoured to convince him of the absurdity of his illusions. He was not the least shaken in his belief, but at last said, "Well, if the people at S—— look like the people of L——, I will believe I am under a delusion." As he entered the town of S——, he anxiously watched for the first face, on seeing which he acknowledged that it presented the same strange appearance that he had seen at L——. He therefore candidly admitted that he was deceived. The fact of his being open to conviction shows that the disease was not far advanced. After this he remained well for several years, when he had an attack of Acute Mania.

The sense of *touch* often suffers.

With hypochondriacal patients, we observe endless varieties of false sensations, or *visceral* illusions, as they are sometimes called. It is often very difficult, and sometimes quite impossible, as we observed before, to draw the line between some of these illusions and false conceptions. Frequently, they are united in the same case. If, however, the nerves of sensation convey to the mind exaggerated impressions regarding any part of the body, it constitutes an illusion; and, if it is manifestly absurd, and the patient's reason cannot perceive that it is an illusion, he is also of unsound mind.

These observations upon hallucinations and illusions may be concluded by succinctly stating the points of real practical importance in regard to them. Either may exist (the former rarely) in persons of sound mind; but in that case they are discredited, in consequence of the exercise of reason and observation, or, if credited, they do not influence the actions. They are sometimes with difficulty distinguished the one from the other, and indeed often merge into or replace each other; but, still they ought to be distinguished by the points of difference already laid down. Either may be the cause of violent acts, and terminate in murder, or suicide; their discovery in criminal insanity is, therefore, most important. Hallucinations are most frequently met with in Monomania and Melancholia, but are

not uncommon in Mania. We have several times observed them present with great vividness in incipient senile Dementia. In children we sometimes see remarkable examples of hallucinations; especially, so far as our experience goes, of sight. Illusions are not so common in Monomania and Melancholia as are hallucinations, being more frequent in Mania. The senses of sight and hearing are more liable to hallucinations, than those of touch, taste, and smell.

Prognosis (see p. 136).—The existence of delusions or hallucinations adds to the danger and unfavorable character of Mania and Melancholia.

On referring to the classification of Insanity at p. 49 the reader will observe that next in order to Delusional Insanity, we give Emotional Insanity, whether manifested as Melancholia simplex, Partial Exaltation, or Moral Insanity *proper* (synonymous with Emotional ditto). To be consistent with this arrangement, we ought rigidly to exclude from the description of these states all forms of Insanity complicated with marked disorder of the intellect. For the convenience of the reader, however, we shall include, while carefully distinguishing, these cases under the same section. Thus, we shall treat Melancholia as a whole instead of restricting ourselves to the purely emotional form of the disorder. So of Homicidal and Suicidal Insanity, &c. The reader will, however, perceive that while the following sections up to Mania include many morbid states in which the intellect is disordered, they differ from the preceding ones in including Emotional Insanity.

SECTION IV.—Melancholia.

Synonyms.—Μελαγχολια (Gr., from μελας, black, and χολη, bile); *Melancholia* (Lat.); *Schwermuth, trübsinn, tiefsinn* (Ger.); *Mélancolie* (Fr.); *Phrenalgia* (Guislain); *Tristimania* (Rush); *Sadness* and *Melancholy* of English writers.

Esquirol suggested the word *lypemania* (λυπη, sadness, and μανια) in the place of melancholia, but added that he should employ the two words indifferently.

Definition.—The signification attached to this term by the ancients, and by modern writers prior to Esquirol, has been

pointed out when speaking of intellectual Monomania. (See p. 195–6.)

Psychical Symptoms.—The invasion of Melancholy, as of other forms of mental disorder, is variously characterised in different cases. It may be sudden, as when the immediate consequence of grief; or gradual and long threatened by premonitory symptoms, and, perhaps, the mere exaggeration of the patient's natural character; or, lastly, it may be altogether secondary to other forms of Insanity, especially Mania.

The first mode of invasion is, compared with the two latter, rare. The incubation of Melancholy is generally prolonged, and sufficiently obvious. The subject of it loses his relish for existence, he feels depressed and unequal to the ordinary duties which call him into public life, and in the domestic circle he is more silent than in health, and seeks entire solitude. In the words of Dryden—

> "He makes his heart a prey to black despair,
> He eats not, drinks not, sleeps not, has no use
> Of anything but thought; or, if he talks,
> 'Tis to himself."

Thus, while cheerless, moody, and taciturn, he is not idle in mind, for he unceasingly revolves his own desperate condition, which he regards as worse than that of any other person; although with characteristic inconsistency, he may regard it as good enough for a wretch like him; he magnifies every circumstance which can be regarded as of unfavorable omen, and is unable to realise those which are favorable; he misconstrues every observation addressed to him, and if he read, every sentence of a gloomy nature appears intended specially for him.

As the disorder advances, the melancholiac, ever fearful, is constantly anticipating some dire catastrophe. He casts a continual gloom around him by his groans or sighs, and will frequently sit from morning to night deploring his unhappy lot; and when night comes, sleep, instead of being to him "balmy," or "tired Nature's sweet restorer," is probably clothed in sadness, and only the signal of an aggravation of his disorder. A patient now under care, but not requiring the restraint of an asylum, wakes again and again in the night, oppressed with the most terrible feelings of distress, to which she looks forward in the day with the greatest apprehension. These nocturnal attacks generally last about half an hour, when they subside, and are succeeded by comparative calm. But the early morning is

generally the occasion for increased mental suffering. One reason why melancholiacs are almost invariably worse on waking, is probably to be found in the unwonted activity and force which attend all operations of the mind at this period. Every one must have observed the vividness with which suggestions occur to the mind, and ideas irresistibly succeed each other, when conscious, although involuntary cerebration is then first put in action. Authors have owed some of their choicest thoughts and most felicitous expressions to this period of the day. With the melancholiac, his most vivid imaginations happen to be of the sombre class, and, becoming intense after the rest which the brain has had during the night, tyrannise over the feebly opposing power of the will and judgment.

The increased susceptibility of the emotions in Melancholia renders its subjects, in the *early* stage, easily moved to tears by trivial circumstances. The consolations offered by friends are refused as the storm blackens; or, at least, are disregarded. It is generally futile to attempt to argue a melancholy patient out of his gloomy forebodings. A patient of the writer's, while admitting that a thousand things she had fancied from time to time had never come to pass, and that in these she had been mistaken, would always add in regard to some fresh foreboding, "I am sure *this* is true." Refering to a person who had had similar notions, she would say, "*His* were fanciful, *mine* are real."

All the symptoms now described, with occasional remissions, which generally deceive the patient's friends, become in time so aggravated, and he is, to the most inexperienced, so decidedly insane, that he is at last placed under care. Occasionally, he is a volunteer, and seeks the tranquillity of an asylum himself. When he is aware of the absurdity of his fears, though unable to escape them, the disorder is termed by Esquirol *reasoning* Melancholia (lypémanie raisonnante).

The association in the same character of a tendency to gloom, and an acute perception of, and love for, the ridiculous, is often remarkably exhibited in melancholy lunatics. The author of John Gilpin is a familiar example. Again, the actor, Carlini, consulted a physician to whom he was unknown, on account of the attacks of profound melancholy to which he was subject. The doctor, among other things, recommended the diversion of the Italian comedy; "for," said he, "your distemper must be rooted indeed, if the acting of the *lively Carlini* does not remove

it." "Alas!" ejaculated the miserable patient, "I am the *very Carlini* whom you recommend me to see; and while I am capable of filling Paris with mirth and laughter, I am myself the dejected victim of melancholy and chagrin!" (Perfect's 'Annals of Insanity,' p. 404.)

Such are the most prominent symptoms of Melancholia. An Athenian painter of celebrity, upon whose moral nature the fine arts do not, however, appear to have exercised a very humanising influence, purchased an old man, a captive brought home from the wars, and put him to torture, in order that he might be the better able to delineate the pains and passions of his Prometheus, which he was then engaged in painting. Upon this, quaint old Burton remarks, in his 'Anatomy of Melancholy,' "I need not be so barbarous, inhuman, curious, or cruel for this purpose, as to torture any poor melancholy man; their symptoms are so plain, obvious, and familiar, there needs no such accurate observations or far-fetched object; they delineate themselves; they voluntarily betray themselves; they are too frequent in all places; I meet them still as I go; they cannot conceal it, their grievances are too well known, I need not seek far to describe them." In short, the psychical symptoms of Melancholia are so well pronounced when present, and hence so readily recognised, that they do not require to be very minutely described.

Patients labouring under Melancholia may, however, indicate their distress of mind by very different external signs.

Some pour forth their grief in excited tones, and manifest a large amount of activity and restlessness.

Others are altogether depressed and silent.

The latter may be subdivided into those melancholiacs whose condition is marked by simple depression, and those in whom it is associated with decided inaction of the intellectual faculties —the *Melancholia attonita* of Bellini, Sauvages, and others, and *Mélancolie avec stupeur* of Baillarger. The French term *Stupidité* includes this condition and that known as acute dementia. See *antea*, "Acute Dementia."

A. B—, a young lady, sustained a disappointment of the affections. Dyspepsia and obstinate costiveness followed. Symptoms of mental depression then appeared, succeeded by refusal to take food, and an attempt at self-destruction. The case then assumed the character of *Mélancolie avec stupeur*, profound melancholy accompanied with a state of semi-stupor. The prolonged warm bath, employed for several months, restored this patient to health. The unfavourable symptoms were always disposed to return on omitting the bath. After her recovery, which was complete, she distinctly remembered the condition in which she had been.

M. Dagonet, in the March and subsequent numbers of the 'Annales,' 1872, contributes several papers on *Stupidité* (or *Stupémanie*), and regards it as most frequently the result of the acutest forms of Melancholia. He gives the two forms just mentioned, one in which there are sensorial illusions and painful delusions, the facial muscles being contracted and the features concentrated, the condition being allied to Ecstasy and Catalepsy; the other marked by a total want of expression in the features. He records one intermittent case of stupor which extended over several years, the attacks lasting five or six weeks and the intervals of lucidity three. In his own experience cases of *Stupidité* ordinarily recover. M. Dagonet gives several interesting cases caused by the events of the Franco-Prussian war.

A case of Melancholia with an absorbing religious delusion fell under the writer's notice several years ago, accompanied by marked catalepsy. It may fairly be classed under "*Mélancolie avec stupeur* or "*Melancholia attonita.*" It must be remembered that stupor does not, in the sense here employed, prevent there being a distinctly conscious delusion.

A female servant, under twenty, had only been in service two days; had not been considered out of health; catamenia regular. She herself, however, observed that her tongue was very much furred, and pointed it out to some one in the house. In the evening, her master rang the bell several times without being attended to. On going into the kitchen in consequence, he found the servant standing motionless with her eyes and hands raised in the attitude of prayer, "as if in a trance." She did not reply to his questions, or cry, or laugh. For three days she remained in this statue-like condition, totally unconcerned about what was passing around her, but occasionally saying "yes," when asked a question; without, however, any regard to the sense. When seen by the writer on the fourth day, she was in the above condition; frequently, but not always, placing himself in the attitude of prayer, and apparently absorbed in devotional exercises. When the arms were raised, a heavy weight was attached to one of them by a cord. When this was suddenly cut, the arm rebounded very slightly, showing that it was not retained in that position by the mere exercise of will. On being addressed, she stared with a vacant expression, and would sometimes whisper "yes." The tongue was covered with a thick brown fur; the pulse about 88, soft; the bowels constipated. (It appears that her paternal grandmother was confined in an asylum.) A purgative was administered; motions and urine passed in bed. She was with great difficulty induced to take food. On the sixth day she relapsed, was quite silent, and passed her evacuations in bed. Tongue much cleaner. A shower bath was given, which was violently opposed. In a day or two she improved again; wine and ammonia were given, but she again fell into her former state. From this she suddenly emerged, without any apparent cause, four weeks after her first attack. She appeared then quite well in mind, and told the writer that she had all the time believed that she was about to be burnt upon a fire or in oil, and that the reason she would not eat was because she believed she should be burnt the moment she did so. She had experienced frightful dreams, which added

to her apprehension of some impending calamity. She also fancied that it was "the last day of the world." She stated she was now perfectly convinced that these impressions were delusions, but that even now, especially at night, they presented themselves very strongly to her. With regard to her state at the time she became ill, she said she had felt sick and out of order for several days before going to her situation.

The following case illustrates this condition :—

A young man (E. W—), a short-hand writer's clerk, who had been rather dull from birth, and was of a nervous temperament, was admitted into Camberwell House under Drs. Paul and Schofield, in December, 1876, in a state of melancholia with delusions. He could not be induced to say a word, and stood with his head bent on his chest, "like an automaton," and would not do the slightest thing for himself. A suicidal tendency was suspected. He had to be forcibly fed. His delusions, as ascertained from his friends, were that he fancied people designed to kill him by poison; and declared that people were robbing him of large landed property. The dread of poison was the cause of his refusal to eat. His skin was cold and clammy; his pupils widely dilated; his pulse very weak. When seen within a month of admission by the writer, E. W— stood in a fixed attitude with open eyes, the pupils moderately dilated. On extending his arms, they remained in that position for a considerable time, the cataleptic tendency being considerable. He answered some of the questions put to him, but slowly and lethargically. He put out his tongue after some hesitation, and very slowly. He had improved since he was admitted. When seen again after an interval of ten months, the writer made the following note:—"Patient stands with his eyes shut, the pupils rather dilated, equal. His head is a little bent on his chest; his face is pale, the expression does not indicate any acute feeling. The skin moderately warm; tongue very red, slowly protruded, and as slowly retracted. Rather thin. Pulse 88, very feeble. Walks slowly; but it is stated that he sometimes goes at a rapid rate in the airing court. Answered questions in monosyllables. Would not say why he does not eat. Is coaxed to take food. Same tendency to cataleptic condition of limbs as before."

In this case it will be observed there was a foundation of constitutional dulness; and upon this were grafted distinct delusions of a melancholy character, followed by a state of mental stupidity, justifying the classification of the case under "Melancholia cum stupore." The native temperament cannot but colour the symptoms and affect the prognosis.

Physical Symptoms.—Among the earliest (partly psychical) are insomnia and disturbed dreams. We know cases in which the dread of falling asleep is intensely agonising, from the anticipation of dreaming, and awaking with horrible sensations. The digestive organs are frequently deranged; the tongue being unnaturally red or loaded, and the substratum firm, while there is a marked fulness or tenderness at the epigastrium, and the alvine evacuations are deficient in bile. As Conolly observes, melancholiacs will refer a sense of terror to the epigastrium, accompanying a feeling of having done wrong without knowing

what. The tongue is in other cases flabby, very pale, and indented at the edges; a fixed dull pain, or an ill-defined sense of oppression in the head, is also often complained of. The pulse is not usually accelerated, but slow and compressible. The urine is often pale, sometimes high-coloured, and depositing lithates. The skin varies; usually harsh, but not unfrequently moist and clammy or greasy.

In women the uterine functions are more or less disordered, and are suspended in a large number of cases. In men the reproductive instinct is usually in abeyance.

"The physiognomy is fixed and changeless; but the muscles of the face are in a state of convulsive tension, and express sadness, fear, and terror; the eyes are motionless, and directed either towards the earth or some distant point; and the look is askance, uneasy, and suspicious" (Esquirol).

Sometimes Melancholia induces a passive attitude; the arms hang loose at the side, the hands are open, and the muscular system is relaxed altogether; at other times, grief intensifies the action of the muscles; the patient's arms are rigidly flexed; the hands clasped and pressed against his chest, or he wrings them in all the bitterness of despair.

Melancholia may be simple; complicated; acute; chronic; remittent; or intermittent.

I. Simple form. There is here no disorder of the intellect, strictly speaking; no delusion or hallucination. It is the *mélancolie sans delire* of Etmuller and Guislain; the *lypémanie raisonnante* of Esquirol; and the *melancholia simplex* of Heinroth.

Dr. Prichard observes, "A considerable proportion among the most striking instances of Moral Insanity are those in which *a tendency to gloom or sorrow is the predominant feature.* When this habitude of mind is natural to the individual, and comparatively slight, it does not constitute madness. But there is a degree of this affection which certainly constitutes disease of the mind, and that disease exists without any illusion impressed upon the understanding. The faculty of reason is not manifestly impaired, but a constant feeling of gloom and sadness clouds all the prospects of life." ('Treatise on Insanity,' p. 18.)

"I meet every day," observes Guislain, "with Melancholiacs who do not exhibit any disorder in their ideas, or lesion of the judgment." "Melancholia is exclusively an exaggeration of the affective sentiments; it is, in all the force of its signification, a *gemüthskrankheit,* in the sense in which the word is employed by

German psychologists. It is a pathological emotion, a sadness, a chagrin, a fear or dread, and nothing more. It is not a condition which sensibly weakens the conceptive faculties." ('Leçons Orales,' vol. i, p. 112.)

There is occasionally a very marked physical disturbance immediately preceding attacks of mental depression. We have a patient under treatment who describes the sequence of her sensations with singular minuteness: the first in the series being a sense of intense oppression at the heart, which appears to her to extend gradually upwards, and is followed by extreme dejection of mind. It is to such cases that the Professor of Ghent refers when he says, "There is a melancholy which I call *anxious* or *pneumo-mélancolie*, on account of the disturbance of the thoracic organs. The distress which the patient suffers sometimes resembles attacks of suffocation. Occasionally this condition is associated with hysterical symptoms, but this is not generally the case. It is sometimes preceded by a painful feeling, which the patient refers to the region of the heart. This state may last two or three months before decided mental disorder is manifest. The patient loses his sleep, he is harassed with gloomy ideas; his features become altered; anguish, accompanied by vague forebodings, announces the *début* of the malady." He adds, "This variety of Melancholy scarcely passes, in some cases, beyond the character of Moral Insanity. It is then free from all disturbance of the intellectual powers; so that the patient unceasingly complains to those who enjoy his confidence, that he is afraid that he will lose his mind. I have known patients who have lived two or three years in this condition, without having ever suffered the least derangement of the understanding, still less of the ideas. It may be the percursor of an attack of epilepsy; it constitutes the prodromic stage of Suicidal Insanity. It is not uncommon in females at the climacteric period." It is the *precordialangst* of Dr. Flemming.

Nostalgia.—(νοστος, return; αλγος, sadness). Home-sickness may sometimes be a variety of simple Melancholia, but it often extends further. In six years, 1820-6, no fewer than ninety-seven soldiers in the French army fell a sacrifice to this disease. Young men and those from the country are more liable to be thus attacked than older men and those accustomed to city life. The inhabitants of mountain districts—the Highlander and the Swiss—are observed readily to droop and become nostalgic when abroad. Gavin, however, quotes from Dunlop the fact, that the

only two examples of Nostalgia which occurred to him were a recruit, a country lad from the fens of Lincolnshire, who died of the disease; and a London pickpocket, whom he saw in the hulks at Sheerness.

In a case we recently met with in the Sailors Home, Falmouth, the patient was a Spaniard, and died very unexpectedly with cerebral symptoms. His previous mental condition was characterised by apathy and a desire to return home, without any very definite indications of physical disease.

Probably, no one had greater opportunities of observing this disease than the celebrated Larrey. He was decidely of opinion, from the observation of a large number of cases, that the mental faculties in nostalgic patients are the first to undergo a change. Unquestionable aberration of mind was present in the cases which he has recorded. This was evidenced by the great exaltation of the imaginative faculty. The prospect of their native home presented itself to their mind's eye, like the *fata morgana* to travellers in the desert, depicted in the extravagant and delusive hues which a morbid fancy alone could suggest. All this is often in violent contrast to the rude, uncivilised, and poverty-stricken home which their better reason would represent as the sober reality. This state of cerebral excitement is accompanied at the commencement of the disorder, by corresponding physical symptoms. The heat of the head is increased—the pulse accelerated; there is redness of the conjunctivæ: and unusual movements of the patient may frequently be observed—perhaps occasioned by the uncertain pains in various parts of the body, of which he usually complains. The bowels are constipated; there is a general feeling of oppression and weariness, indicated by the patient frequently stretching himself and sighing. There is an inability to fix the attention, and the conversation is, in consequence, somewhat unconnected.

The symptoms which succeed are a sense of weight, and pain in all the viscera. The deficiency of nervous power produces a torpid and partially paralysed condition of the stomach and diaphragm. The symptoms of gastritis, or gastro-enteritis, which immediately supervene, M. Larrey considers as but sequelæ. The phenomena next presented, as the febrile symptoms increase, are those which we ordinarily observe when there is great derangement of the digestive functions, accompanied by fever.

The prostration of strength which marks what may be called the third period of the disease is very great. The mental depres-

sion keeps pace with the decline of bodily strength, and is often manifested by weeping, sighing, or groaning. A symptom resembling that of hydrophobia is sometimes present,—namely, great aversion to the sight of clear liquids, as water, together with the usual disgust of food. A propensity to suicide is not unfrequently manifested when the debility becomes extreme; paralysis is also common; but, generally, death is the result of a gradual exhaustion of the vital powers.

M. Larrey witnessed, during the retreat from Moscow, a large number of his comrades perish in a similar condition of mind and body, from the effects of intense cold.

It has been frequently remarked, that the inhabitants of cold and moist as well as of mountainous countries, are liable to the moral impressions which are the origin of Nostalgia. The Dutch are a notable example. Larrey found, that the troops enlisted from the Dutch and the Swiss were precisely those which, during the disastrous campaign of Moscow and the cruel vicissitudes experienced, afforded the greatest number of victims to a morbid cerebral condition similar in its symptoms to Nostalgia. It was observed on the other hand, that the army of Napoleon, which served in Egypt, did not produce a single case exhibiting the least symptom of this disorder. On the contrary, the soldiers became exceedingly attached to the climate, so as almost to consider it a second home, and, like the Israelites of old, there was not one among them who did not in his heart regret leaving the land of Egypt.

The military hospital received many patients from among the Swiss Royal Guard, who were sent thither for undefined complaints which speedily merged into decided Nostalgia; and this disorder seemed most prevalent during the extreme height of the barometer.

Larrey gives the case of a soldier in the first Swiss Regiment. His state did not appear alarming to Dr. Cornac, his physician, when he first entered the fever wards. One day, however, when Larrey visited him, he was informed that the unfortunate man had committed suicide, and, hastening to his assistance, found him weltering in his blood, and at the point of death, from a large wound in the region of the heart, inflicted with a knife. At the *post-mortem* examination, on sawing open the skull, M. Larrey was surprised to find a layer of lymph and purulent matter between the dura mater and the pia mater, which covered the entire circumference of the brain, and involved also the arachnoid membrane. On the cortical substance of the brain, especially towards the anterior lobes, and at the superior edges of the hemispheres, many points of suppuration were observed. The sinuses of the dura mater, as well as all the vessels of the head, were gorged with black blood; the ventricles contained

a rather large quantity of serum; the base of the cerebrum and cerebellum alone remained sound.

From the facts of this case, we may, with Larrey, draw the conclusion that a deep moral sentiment, the desire to revisit his native country, was the cause which gradually developed the cerebral disorder preceding the act of suicide in this Swiss—an act which may be regarded as independent of the patient's volition.

In two similar cases the *post-mortem* appearances were almost identieal.

There are misanthropical and love-sick forms of Melancholy, which may be here enumerated, but do not require any special description. The latter rarely attains to a sufficient degree of intensity to render the restraint of an asylum necessary. Guislain estimates its frequency at one in four hundred admissions in the institution at Ghent. Misanthropical Melancholy rarely presents itself to our notice in an uncomplicated form, so severe as to constitute mental disease; but, as has been justly observed, an aversion to human society, a desire for solitude, and a repugnance to the pleasures of life, constitute the very essence of all Melancholy. ('Leçons Orales,' vol. i, p. 125.)

Hypochondriacal Melancholy is by Guislain classed under the head of Melancholy without disorder of the intellect, that is, simple Melancholia. Griesinger regards it in the same light, as essentially a *folie raisonnante mélancolique*. It is, however, so very generally accompanied by decided delusions, that it will be more convenient to consider it under the complex form.

II. Complicated Melancholia,[1] or Melancholy with decided disturbance of the intellectual faculties. (*Mélancolie avec délire, la mélancolie délirante* of French writers.)—This we do not doubt is more common than the simple form. Guislain, however, states that in his experience they are of equal frequency. About 13 per cent. of the admissions into his asylum at Ghent were examples of each form.

Hypochondriacal Melancholy.—Much confusion exists in regard to the boundary line between what is popularly called Hypochondriasis and genuine mental disease; and in truth, this confusion arises, in some measure, from the inexact limit which separates the one from the other in nature. In a particular case, it is often impossible to determine the precise period of the supervention of cerebro-mental disease. Guislain (op. cit., vol. i, p. 119) goes further than most writers, in including hypochondriacal symptoms under Insanity. "Hypochondriasis," he observes, "is a disorder of the affective faculties—most certainly an alienation.

[1] Although properly falling under "Delusional Insanity of a melancholy character," it is more convenient to describe it in this place (see p. 49).

This is proved by the affection being transformed into other mental diseases." He divides it into two classes—*bodily* and *mental*. Patients afflicted with the former "believe themselves invalids and in suffering: they believe they have every infirmity and every complaint. They experience all the diseases which they hear mentioned. They apply to doctors, to charlatans, to druggists, to quacks, in order to have the disease explained to them, and to obtain remedies, which they generally take with avidity." He estimates that two patients out of every hundred are admitted at Ghent, in consequence of this condition—of course, in an advanced stage.

In an ordinary case of Hypochondriasis under the writer's care, the patient, a married woman, was constantly wishing him to prescribe for some fresh symptoms of an alarming character. Among his notes of this case he finds the following:—"Subject for seven years to attacks of pain in different parts of the body, especially the abdomen; palpitation, vertigo, &c. Is now fifty-eight. No family. Has the most absurd apprehensions. Is always worst in the morning; not when she awakes, but at about seven. Improves as the day advances. On one occasion she seemed like a person under the influence of strychnia; was relieved by calomel and opium. Is constantly dwelling on her state. Great dread of death. Is frequently in bed for a day or two, apparently at death's door, but without a single morbid physical symptom of real importance; not materially relieved by valerianate of zinc." Such cases, more or less marked, abound in the experience of every physician. When occurring in the female, they generally assume a more decidedly hysterical form.

In another case, that of a gentleman, the patient was firmly convinced that the testicles had wasted away, and brooded over the supposed loss of reproductive power. This is a very common notion with hypochondriacal men.

In the case of a gentleman at Bethlem Hospital, in whom Hypochondriacal Melancholy exists in an aggravated form, the writer wrote down the following complaints as he heard them, the whining voice, the knitting of the brows, and the pathetic appeal for something to be done, being most characteristic:—

"Oh dear! oh dear! Can't you do anything for me? I was A 1 in the City, and making so many thousands a year; now I am wasting away. Look at my clothes, and see how my stomach has gone. I've no stomach left. I've lost my height. I know my bones are the same, but my flesh has all gone. I am getting smaller altogether, don't you see? The skin, or at least the flesh, on my head is gone. How can I live like this? My teeth are smaller than they were. My nose is less; it has gone, or nearly so. My hands are smaller. My private parts are wasting away. Feel my pulse; it is so weak." The patient tears his clothes, and is very untidy. He is sometimes violent, breaks a window, or gives a patient a black eye, which he denies afterwards.

A distinction must be drawn, Guislain notwithstanding, between Hypochondriasis as employed in its loose, popular

signification, and those indisputable, although closely allied forms of mental disease, of which the last case is an example.

It is important, however, that the student should remember, that Hypochondriasis may be associated with actual and fatal diseases, greatly as the sensations may be exggerated by the patient. On clearly distinguishing between these stages of the disorder—that in which there is, and that in which there is not, organic disease—his success in prognosis will depend.

It will be found from medical descriptions of ordinary Hypochondriasis that the symptoms *essential* to the disease closely border on Insanity; and that some of those enumerated by authors, as of frequent occurrence, are inseparable from unsoundness of mind. Thus, we have "often special delusions and illusions regarding the patients physical condition," "an incurable despair," &c. Hence it is evident that authors have described, under the same name, a disease which, according as it assumes a mild or a severe form, may present very different aspects when viewed from a medico-legal standpoint; and which, in its former phase, may be regarded as simple Hypochondriasis; but in the latter, may very properly be termed Hypochondriacal Melancholy, or Melancholy the prominent symptoms of which are a hypochondriacal nature. To ascertain, in particular cases, when the one begins and the other ends is doubtless a problem the solution of which will tax all the acuteness of the psychologist; but the difficulty is not perhaps, greater than that of deciding, in some cases, where what is popularly understood as Melancholy ends, and the genuine Melancholy of the psychologists begins.

Hypochondriasis may certainly exist with the latter, and of course Melancholia may be present without Hypochondriasis; but the two are frequently combined; and for this combined morbid condition we do not know that there is any better phrase than Hypochondriacal Melancholy. In simple Hypochondriasis, the patient fears, without any sufficient reason, that he will soon die in consequence of his supposed complaints; but when Insanity more decidedly supervenes, he may fear that he will be poisoned, and to avoid this, may even terminate his own life! Again, in simple Hypochondriasis, the patient exaggerates the importance of a trifling, but probably an actual ailment. When, however, there is well-marked cerebro-mental disease, he will invent the most absurd and impossible maladies that can be conceived, and become possessed with delusions which will leave no doubt as to his insanity. (See "Diagnosis.")

Thus, a patient to whose case we shall shortly refer, gravely attributed the eructations from which he suffered, to the three frogs mentioned in the Revelation of St John.

While, however, as in this instance, the character and grossness of the patient's conviction will lead us to decide upon his Insanity; in others, this opinion may be formed from collateral circumstances. Thus, it may happen that, in two cases, the error under which the patient labours will be precisely the same, and yet we may be justified in arriving at the conclusion that, in the one, the false conviction is, and in the other it is not, the result of cerebral disease; this opinion being formed independently of the character of the delusion, from a consideration of various facts, proving the existence of cerebro-mental disorder.

The case of Buranelli, who was executed for murder in 1855, was a remarkable illustration of the ill-defined boundary line which often separates these affections, and of the difficulty which exists when this occurs, and when the case involves the question of criminal responsibility, of deciding upon the existence of cerebro-mental disease. A commentary upon this important trial may be advantageously read in the 'Asylum Journal of Mental Science,' July, 1855.

M. Michèa, who has written a treatise on Hypochondriasis, concludes that this affection must be regarded as without the pale of Insanity, so long as the depression of mind is not the consequence of a delusion (*idée fixe*), so long as it has not for its exclusive object an extreme fear of death, and so long as it yields promptly to consolations offered, and to reason.

Many of the observations now made in regard to the relation which Hypochondriasis, in a simple form, bears to Hypochondriasis complicated with decided cerebro-mental disease, apply to Hysteria when regarded from the same point of view. Hysteria is not in ordinary cases to be regarded as Insanity, but there is a state of mind which may properly be designated Hysterical Insanity, in which aggravated Hysteria constitutes a prominent symptom; and which must be distinguished from simple Hysteria either by intensity, or by its complication with actual sexual delusions or excitement.

It may here be observed, that Hypochondriasis and Hysteria have been regarded as identical diseases by Sydenham, Boerhaave, and other medical writers. They have been distinguished, however, by Cullen, Pinel, and others; and there are, undoubtedly, many distinguishing signs. Thus, while Hypochondriasis

affects both sexes, but principally the male,* Hysteria affects the female sex almost exclusively; while the mode of invasion of the one is slow and gradual, that of the other is characterised by sudden attacks; while the former is marked by the symptoms already described, there are usually present in the latter, the globus hystericus, a facial expression better known than described, and if in an aggravated form, attacks of partial or complete unconsciousness, convulsions, spasms, and perhaps lock-jaw.

Some remarkable instances are on record, in which intense mental emotion has been followed by changes in particular structures, in relation to which the emotion was excited; and which would seem to suggest the probable course which some cases, at least, of Hysteria and Hypochondriasis may have taken. As some of these may seen too remarkable to be easily credited, we will refer to a case well known to ourselves,—that of a highly respectable and most intelligent lady, in whom this phenomenon was exhibited.

This lady was one day walking past a public institution, and observed a child, in whom she was particularly interested, coming out through an iron gate. She saw that he let go the gate after opening it, and that it seemed likely to close upon him, and concluded that it would do so with such force as to crush his ankle; however, this did not happen. "It was impossible," she says, "by word or act to be quick enough to meet the supposed emergency; and, in fact, I found I could not move, for such intense pain came on in the ankle corresponding to the one which I thought the boy would have injured, that I could only put my hand on it to lessen its extreme painfulness. I am sure I did not move so as to strain or sprain it. The walk home—a distance of about a quarter of a mile—was very laborious, and, on taking off my stocking, I found a circle round the ankle, as if it had been painted with red-currant juice, with a large spot of the same on the outer part. By morning, the whole foot was inflamed, and I was a prisoner to my bed for many days."

Now, if, as in this instance, a powerful emotion, directed into a certain channel, can result in such marked physical changes without the agency of any local cause, it is highly probable that, in some instances, the firm conviction of an individual (it may, or may not be, the consequence of cerebral disease), that he has, or is about to have, some particular disorder, and the constantly dwelling upon and dreading it, does produce, through trophic nerves, the very disorder upon which his apprehensions are concentrated.

* "I do not know whether Hysterical Insanity has ever been observed in men" (*Griesinger*). He distinguishes two forms—*acute* attacks of delirium and excitement even to developed Mania, manifested by singing, vociferation, cursing, &c.; and a *chronic* form, appearing either in the form of Melancholia or Mania. He adds that Hysterical Insanity passes more frequently into Dementia than one might expect.

Melancholy may be complicated with many other delusions, besides those we have considered in connexion with Hypochondriasis. Some of these have unavoidably attracted our attention when speaking of Delusional Insanity, because many insane persons have hallucinations and definite delusions of a gloomy character, in regard to what is going to happen to them. Doubtless, in the large majority of cases, the delusion derives its tone entirely from the disorder of the affective faculties. Be this, however, as it may, the patient no longer suffers from simple Melancholia; the disease is compound; the integrity of the understanding is markedly impaired.

Religious Melancholia (*Mélancolie religieuse, Monomanie religieuse* of French writers) may, or may not, be associated with obvious disturbance of the intellectual faculties. As it very generally is so, it may properly be considered in this place. But it may be well to observe, that Dr Prichard draws from thence some of his illustrations of "Moral Insanity."

Many patients become victims to the most gloomy fancies, and the conscience becomes so morbidly acute, that—

> "Night-riding incubi
> Troubling the fantasy,
> All dire illusions
> Causing confusions;
> Figments heretical,
> Scruples fantastical,
> Doubts diabolical,"—

are incessantly presented to the mind, and life is rendered intolerable by perpetual misgivings as to the propriety of the most trifling circumstance; or, the patient may be unceasingly engaged in devotional exercises. An Irish priest in the Bicêtre kneeled so constantly, that his knees were almost completely anchylosed, the skin also becoming as tough as leather.

Plutarch has given a graphic sketch of the condition of those labouring under Religious Melancholia in his day, or the superstitious (δεισιδαίμονίαι), as he terms them. It would be difficult to employ more appropriate language for the present purpose. "To such a man, every little evil is magnified by the scaring spectres of his anxiety. He looks on himself as a man whom the gods hate and pursue with their anger. A far worse lot is before him; he dares not employ any means of averting or of remedying the evil, lest he be found fighting against the gods. The physician, the consoling friend, are driven away. 'Leave

me,' says the wretched man,—'me the impious, the accursed, hated of the gods, to suffer my punishment.' He sits out of doors, wrapped in sackcloth or in filthy rags. Ever and anon he rolls himself, naked, in the dirt, confessing aloud this and that sin. He has eaten or drunk something wrong; he has gone some way or other which the Divine Being did not approve of. The festivals in honour of the gods give no pleasure to him, but fill him rather with fear and affright. He proves in his own case, the saying of Pythagoras to be false, that we are happiest when we approach the gods, for it is just then that he is most wretched. Temples and altars are places of refuge for the persecuted; but where all others find deliverance from their fears, there this wretched man most fears and trembles. Asleep or awake, he is haunted alike by the spectres of his anxiety. Awake, he makes no use of his reason; and asleep, he enjoys no respite from his alarms. His reason always slumbers; his fears are always awake. Nowhere can he find an escape from his imaginary terrors."

We may illustrate this form of Insanity by an interesting case, in which the religious depression, and the delusions springing out of it, were intimately blended together.

The patient, a gentleman of highly cultivated mind (with hereditary predisposition, and the father of three sons more or less deranged), believed himself doomed, by an irrevocable decree, to eternal flames. He imagined that an entire change had taken place in the state of mankind; that all, except himself, had entered upon a state of bliss, but that he was reserved for everlasting torments, as an atonement for the sins of the whole world. He stated that he had heretofore entertained the same views as others in regard to the character of Jesus Christ—namely, that His sufferings had obtained a general atonement; but that he had now found that Christ was a triumphant, *he* a suffering Saviour. He now perceived that the Scriptures, and many other books, were full of predictions representing himself; that the accounts of Cain, Esau, &c., although historically true, had a relation to him; that he was the son of perdition, the scape-goat, the man of sin, spoken of in the Bible; that, in fact, both the Old and New Testament were full of predictions respecting him. When dissent from such views was expressed, the patient would respond, "Oh, I know you will deny it; you are bound to deceive me. I do not mean voluntarily, but from the fictitious state of your own existence. You are only the *corpse*, the remains of yourself. It is, to be sure, idle to talk of my state to you; but the heart that is full seeks, though in vain, to vent itself." When the individual thus addressed assured him that he had as firm a conviction of his existence in the same state of body that he had always been in, as he could possibly have respecting the mysterious change which he supposed we had all undergone; and that as he (the patient) was quite *singular* in his opinion, he must allow that there was the strongest possible evidence against the correctness of his views: "I would admit it," he replied, "if there were another human being in the world but myself; but, alas! all the appearances of existence in persons and things around me are fictitious; all are enjoying felicity but

myself. I only am reserved to endless torment. Everything has changed its aspect. Objects around me are no longer seen in perspective, but appear flat, and raised one above another, like a Chinese drawing. Spring will no more return." When a confident belief was expressed that spring would return, and a hope that it would remove his apprehensions, "They are not apprehensions," he replied, with earnestness; "they are *convictions*; but if spring does return, and resume its usual appearance (I don't mean a few crocuses and snowdrops), I will acknowledge myself in error." At the close of an interview with this patient, who was then in an asylum, "It may seem strange," he said, "to ask you to visit me again, but I shall be glad to see you; for even the shadows, the resemblances, of those we know, are pleasant amongst strangers."

The power of self-control was singularly illustrated by a circumstance which occurred in the course of the above case. At the very time when he could not restrain the expression of his gloomy feelings before his wife, and could not attend in the least to his family affairs, he paid a visit to the poet Southey. Subsequently, the poet, who was cognizant of his guest's mental infirmities, expressed to the patient's wife the satisfaction he experienced in seeing him so well; and added, he never knew him reason more clearly. On the wife repeating this to her husband, he exclaimed. "Why you know, I could not think of showing my weakness before *him*." The unintentional *confession* of his weakness is also an interesting feature in this reply.

C. D— was another case of a very painful character, in which Melancholia alternated with Mania. The patient, also a gentleman, imagined (although he had led a regular religious life) that he had entirely neglected his duties, and that he would therefore be burnt alive as a sacrifice to an offended Deity. Three months after he was placed in confinement he became maniacal, vociferating and swearing constantly. These symptoms passed away, and the former state of despondency returned, accompanied by a suicidal tendency. During four months these opposite conditions frequently alternated—a phase of Insanity popularly known as "high and low." At last, while in his low mood, he suddenly became cheerful, and spoke rationally. Undisturbed sleep, to which for long he had been a stranger, followed, and he recoverod perfectly. He subsequently married.

Melancholia, as has been previously stated, may be *acute* or *chronic*; and this, of course, may be the case whether it be simple or complex. The term acute, as applied to Dementia, has reference, in general, rather to its duration than to its character, just as we often speak of acute rheumatism (the symptoms of which may be mild) to distinguish it from the chronic form. When applied to Melancholia, however, the term conveys, in most instances, a correct impression of its character: and, when exhibited in this active phase, it is truly distressing to witness. Agony, anguish, and despair are terms which best describe this lamentable state.

The following case under the writer's care is very illustrative of this condition and will form a good type of the class.

The patient, possessed of good general ability, and a skilful artist, would sit crouched for hours, covering his face with his hands, bitterly bemoaning his lot; at other times silent, with the exception of groans and sighs. His suffering appeared to be most acute. His expression was intensely sad; the facial muscles fixed, as if by spasm, and altogether expressive of concentrated grief. But, while exquisitely sensitive to his condition, he never wept; a reference to the causes of his dejection never caused a tear, but only an obstinate rejection of all proffered consolation. This complete absorption in grief tyrannised over, rather than extinguished, his purely intellectual faculties. His power of recollection was as acute as ever, but he recalled the sorrows, and not the pleasures, of memory. The comparing faculty was in action, but only engaged itself upon contrasting his former happy with his present miserable condition. His judgment was still good, except when he judged himself to have more cause for grief than any one else in the world; and as to his reasoning powers in general, it was a case in which, to a very great extent, the patient reasoned correctly enough, only from false premises. His perceptive faculties were sufficiently quick, but he perceived only the dark side of his case. His imagination was but too active in painting all the sufferings which awaited him. In short, he was full of fears, devoid of hope, and seemed as if he "would not if he could be gay." This patient died of phthisis, and, till within a few moments of his death, manifested the same acute symptoms of Melancholia.

Chronic Melancholia is but too frequently the sequence of the acute condition. Melancholia also, as we have seen, may alternate with Mania—the *folie circulaire* of Falret, and the *folie à double forme* of Baillarger, who regards these alternations as phases of the same affection.

All the varieties of Melancholy are disposed to be remittent; and it is generally observed that the remission takes place in the latter part of the day, the patient suffering the most acutely early in the morning, and for some hours subsequently. This circumstance affords a useful practical hint in those cases in which a suicidal tendency exists.

Ætiology.—To the causes of Insanity in general (p. 54) we may add that the exciting cause of Religious Melancholia is sometimes to be traced to the fiery denunciations of a well-meaning but injudicious preacher. It is remarkable that, even in pagan times, Marcus Aurelius made a law condemning to banishment those *"who do anything by which men's excitable minds are alarmed by a superstitious fear of the Deity."* If the modern authors of such fearful results are not themselves to suffer banishment, it is heartily to be wished that the *practice* were entirely banished from the pulpit.

In the following case the mental disorder was closely con-

nected with, if not caused by, unwisely prolonged religious exercise.

E. F—, æt. 16, was apprenticed to a whitesmith, and bore an excellent character. One Sunday evening he went to a Methodist chapel, and thence, with some of his acquaintance, to a private house, where a party met for the purpose of prayer and exhortation (or, as it proved, excitation). The boy returned home at half-past ten o'clock. The Bible, which his father had been reading, lay on the table, so he read several chapters in it, and then prayed himself in a somewhat excited manner. They slept in the same room, and his father observed that he lay awake some hours frequently sighing, but was not "irrational." On returning home from his work next evening he found his son had been unable to work during the day, had eaten nothing, and was in a state of great depression, accompanied by a tendency to stupor. On the next day, when a gentleman called at the house, he clasped his hand in his, burst into tears, and talked incoherently. He evidently could not collect his thoughts, and was labouring under a sense of undefinable alarm. He was reluctant to walk or to sit down when desired to do so, but did not exhibit any aversion to his friends. For several days he continued in much the same state, and was mostly silent. The warm bath and purgatives were followed by complete recovery, and at the end of a fortnight he returned to his work. We may add that he subsequently married, settled respectably in life, and made an efficient workman. He had no relapse.

"Revivals" are not unfrequently the exciting cause of religious depression. (See p. 99.)

Prognosis.—(See page 135.) The course of Melancholia varies mainly according to the constitution of the patient, his age, the degree in which the disorder is simple or complicated, and the presence of hereditary predisposition to mental disease. It has some tendency to pass into that "tomb of human reason—Dementia." Conolly observes that "a great number of the patients now surviving, and who were marked in the register, on admission, as affected with Melancholy, are now in the state of Dementia." The statistics of the Retreat show that this tendency is much less marked than in Mania. Thus, out of forty-nine patients who died there, and who had been admitted in a state of Mania, sixteen were examples of Dementia; while of forty-eight who died, and who were admitted labouring under Melancholia, only *four* died in a state of Dementia.

SECTION V. Partial Exaltation, or Amenomania.

From Melancholia we may turn to the consideration of an *opposite* or exalted emotional condition—that, namely, to which the terms *Amenomania* (*amœnus, agreeable*) and *Chæromania* (χαίρω, to rejoice)have been applied; the former by Rush, the

latter by French writers. It is the gay Partial Insanity or Monomania *proper* of Esquirol.

There is, very generally, so intimate a connexion between those examples of Delusional Insanity, in which the delusion is of a gay and elevated character, and those exalted states of the feeling which we proceed to consider, that the two are rarely separated. They may be so, however; and it therefore happens, of necessity, that in the description of the various forms of mental disorder, we shall come upon the same phenomena when engaged on very different forms of Insanity. Thus, when our attention was specially directed to delusions, it was impossible to avoid a reference to those cases in which the patient believes himself a king or the Deity.—"Delusional Insanity of an exalted character;" and, in the consideration of the present division, we necessarily meet with cases in which the exalted state of the emotions led to these delusions.

When Esquirol restricted the term Melancholia to its present popular signification, he applied that of Monomania,* at least the affective class of monomanias, to examples of exaltation of the sentiments.

It is customary to speak of Monomania of pride, of vanity, &c.; and French authors have *la monomanie vaniteuse*, or *Narcisse;* and *la monomanie ambitieuse*, or *orgueilleuse*, or *des riches*, or *des grandeurs*.

The former is described by Guislain in the following terms:—"It ordinarily manifests itself under the form of a tranquil Mania which exhibits the patient infatuated with his beauty, his grace, his mind, his dress, his talents, titles, and birth. These lunatics love to see themselves in the glass, and to deck themselves out; sometimes they display an astonishing art in varying their attire, although their wardrobe may be very scanty; they invent new fashions; they arrange their hair tastefully; and they study to set themselves off to advantage, by attention to their toilet, person, and figure."

We are acquainted with such a case at present; a patient who has no very decided delusion, but who is influenced by the most exalted notions respecting himself: his every gesture, and expression, and conversation, display his diseased self-love, his *monomanie vaniteuse*, associated, however, with great intelligence, and an extent of knowledge of which many who are sane might be justly proud. He constantly boasts of his "descent from one of the best families in the United Kingdom," "a family of note," and that his family have in their possession "three different coats of arms, finely emblazoned on parchment." His "maternal blood is equally

* For the various senses in which Esquirol employed this term, see p. 197.

good." He is intensely sensitive to everything which can, by any possibility, be construed into a slight of himself; and the omission of any of the most trivial accustomed marks of respect, is tortured into intentional incivility. The studiously arranged dress, the self-satisfied attitude, and the buoyant step of this patient, are all in keeping with the sentiments which are present in such morbid excess.

The following case is an illustration of morbid vanity in a lady, although not developed to an extent which raises the question of confinement.

G. H—, a maiden lady, æt. seventy, her face bearing the furrows of many years, walks erect notwithstanding, and is decked out in the most antiquated foppery. All the colours of the rainbow may be seen upon her person, and while the eye is dazzled with gilt and tinsel, it is difficult to suppress a smile at the expense of this caricature of human vanity and weakness. As she walks along the streets, children flock around her, bowing and curtseying, and soliciting sweetmeats and halfpence, with which she is always provided, and which she gives with an air of most gracious condescension, quite characteristic of her class. This conduct does not arise from benevolence, but is the fruit of vanity in another form—the attempt to obtain homage from the only class willing to give it. Her eccentricities do not interfere with the peace and good order of society, and she converses with entire rationality. She has one brother equally eccentric, and another is confined in an asylum for the insane.

Not unfrequently these several forms are confounded with general Mania, when from their partial character, and from the small degree in which the sequence of ideas is confused, they may properly be distinguished from it. Esquirol indeed complained of this confusion. "Writers," he says, "have not observed the difference between Monomania and Mania, because of the excitement, susceptibility, and fury of some monomaniacs." "Amongst monomaniacs the passions are gay and expansive; enjoying a sense of perfect health, of augmented muscular power, and of a general sense of well-being, this class of patients seize upon the cheerful side of everything; satisfied with themselves, they are content with others. They are happy, joyous, and communicative. They sing, laugh, and dance; controlled by vanity and self-love, they delight in their own vain-glorius convictions—in their thoughts of grandeur, power, and wealth. They are active, petulant, inexhaustible in their loquacity, and speaking constantly of their felicity. They are susceptible and irritable; their impressions are vivid, their affections energetic, their determinations violent; disliking opposition and restraint, they easily become angry, and even furious."

Guislain estimates the frequency of the Monomania of Pride at one in 300 admissions, exclusive of cases of General Paralysis,

with which extravagant ideas respecting wealth are so frequently associated.

Religious Exaltation or *Excitement* is less common than the opposite condition—that of religious melancholy or depression which not unfrequently succeeds it. It has been estimated that only one per cent. of cases of excitement assumes this form. It includes the *theomania* of Esquirol.

In the boy whose case we mentioned when speaking of religious melancholy, religious excitement formed the first phase of the attack, depression the second. In asylums, patients are not so commonly admitted in the early stage of excitement as afterwards, when signs of depression are present.

Dr Prichard gives an excellent description of religious excitement, as illustrative in his opinion of disorder of the moral faculties without lesion of the intelligence; in cases in which it has followed a state of supposed religious destitution. The strain of excitement, however, is too much, and the expressions of happiness too ecstatic to be long mistaken. Pride and haughtiness succeed, accompanied by a violent deportment "quite unlike the effects of a religious influence, and soon unfold the real nature of the case; or it is clearly displayed by the selfishness, the want of natural affection, the variableness of spirits, the irregular mental habits of the individual. In the cases to which I have now referred, there has been no erroneous fact impressed upon the understanding—no illusion or belief of a particular message or sentence of condemnation or acceptance specificially revealed." ('Treatise,' p. 20).

Many authors, and especially Heinroth, have referred to this form of mental disorder those personages of antiquity who professed to foretel future events, as the Pythia at Delphi, Cassandra, &c.

Some of the founders of religious sects may, with more probability, be regarded as the subjects of Religious Insanity; having, in some instances, been themselves the dupes, when censured for having duped their credulous followers. Irving, in modern times, is a familiar illustration of the class. To what extent Mahomet was also an example offers an inquiry of great interest, but cannot, in this place, be discussed. We may, therefore, refer to a work entitled, 'Mahomet considéré comme aliéné, par le docteur Beaux; rapport à l'Académie Royale de Médecine par M. Renaudin.' A patient at the Retreat believed it was his religious duty to have "two wives and a concubine."

It is easy to see that under favorable circumstances, and among the ignorant, such a delusion might lay the foundation of a new sect—Mormonism, for instance. The founder of the sect might be deluded, but sincere.

"Religious revivals," whatever opinion may be entertained in regard to their general or ultimate influence for good or evil, are doubtless the occasion for the outburst of some well-marked examples of intense religious excitement, in which excessive devotional feeling overrides the reason. In some cases a fearful state of prostration, either of mind or body, or mainly the former occurs; but in others the condition is one of religious ecstasy or exaltation, complicated in many instances with hysteria. Some fall into a trance, others see visions. "Some of the convicted see in their visions," we are told, "a black horse, others see a black man; others see Jesus Christ on the one side and the devil on the other, and they cry, 'O, Jesus Christ, save me from the devil.'" An eye-witness of the Irish revivals speaks of 'theomania.' "Insanity" says the Rev. W. McIlwaine, of Belfast, "generally in one of its worst forms, theomania (and not unfrequently in other forms of Insanity equally to be dreaded, such as acute mania), has been developed to a fearful extent. Speaking guardedly, I may assert that, from unquestionable sources, I have come to the knowledge of at least fifty such cases within the last six months in this immediate neighbourhood." Some of the disciples of Irving appear to have been in a very remarkable state of religious exaltation. And, in passing, it may be observed as a curious circumstance, that some of his congregation uttered a peculiar cry or sound, which Archdeacon Stopford, who heard it, instantly recognised thirty years afterwards, as identical with what he heard in Belfast. "That moment it flashed upon my memory; it was with some slight modification, but in its character essentially the same, the unmistakable cry of Irving's prophetess—a sound that while I live I never again can mistake or misinterpret." Religious exaltation assumes a variety of epidemic forms. Assisted by the infectious influence of sympathy, it was exhibited in some phases of the "dancing mania;" among the "Convulsionnaires;" and among the American Shakers, who profess to have originated in the Camisards or French prophets.

SECTION VI.—Moral or Emotional Insanity (proper).*

A class of cases demanding much consideration and discrimination must now occupy our attention. They are mainly of a destructive character, and may be distinguished from emotional disorder of a melancholy and exalted character, by the term "Emotional Insanity *proper*," or what is ordinarily understood as Moral Insanity.

Synonyms.— *Gemüths-wahnsinn* or *krankheit* (Ger.); *Manie raisonnante* (Pinel); *Monomanie affective*, and when an irresistible impulse, *instinctive* or *sans délire* (Esquirol); *Folie d'action* (Brierre de Boismont); *Moral Insanity* [proper] (Prichard).

In a systematic treatise like the present, it is necessary to place the reader in possession of information in regard to alleged forms of mental disorder, although in this instance it is proper to warn him that much difference of opinion prevails in respect to what has been called Moral Insanity, and that some eminent alienists deny its existence altogether. So long, however, as the question is *sub judice*, it forms an interesting object of investigation and research for the student of insanity.

That intellectual power and the perception of moral truth do not necessarily exist in the same degree with the same person, that they do not always develop themselves *pari passu* are propositions which, as the result of common observation, obtain general acceptance. But that there should be anything like congenital defect of the moral sense (*anomia* of Dr Rush), in conjunction with intellectual powers not strikingly deficient, is a proposition not generally recognised, or so easily established. It is obviously one which must be carefully considered in the description of mental diseases. (We shall *define* as we proceed.)

Many analogies subsist between the moral and intellectual faculties, and, in many respects, they may be observed to be under the influence of the same laws. The sentiments, no less than the intellect, are indicated by, or associated with, certain temperaments and physical signs; thus, good nature usually coexists with a sleek and fat habit of body. Virtuous and vicious tendencies are unquestionably hereditary; or, as congenital, are displayed from the earliest infancy in children subjected to just the same educational influences. The moral facul-

* See p. 50 of this work.

ties may be either excited or depressed by disease. "Who has not seen," asks Dr Rush, "instances of patients in acute diseases, discovering degrees of benevolence and integrity that were not natural to them in the ordinary course of their lives?" and we may add *vice versâ*. Dreams affect the moral faculties as well as the intellect; under their influence we are benevolent, devotional, passionate, and affectionate, as well as imaginative and talkative.

Dr Lockhart Robertson has expressed himself more strongly on this subject than many would be prepared to do, when he says, "We find that either concomitant with intellectual disease, or even singly (the Moral Insanity of systematic writers), the moral powers of the mind may be perverted or entirely obliterated, exhibiting itself in entire moral perversion, in an inability to control conduct, and in total suspension of the natural affections. ('Essay on the Moral Management of Insanity,' &c., p. 103).

Ray, in his 'Jurisprudence of Insanity' (p. 163), after treating of Mania as it affects the intellectual powers, proceeds to observe, that a more serious error can scarcely be committed than that of limiting its influence to them. "It will not be denied," he adds, "that the propensities and sentiments are also integral portions of our mental constitution; and no enlightened physiologist can doubt that their manfestations are dependent on the cerebral organism. Here, then, we have the only essential condition of Insanity—a material structure connected with mental manifestations; and, until it is satisfactorily proved that this structure enjoys a perfect immunity from morbid action, we are bound to believe that it is liable to disease, and consequently, that the *affective* as well as the *intellectual* faculties are subject to derangement."

Sauvages and others attempted to distinguish in their classifications between *hallucinations* and *morbi pathetici*, but Pinel drew from his practical experience much more decided conclusions, and recognised a form of mental disorder to which he gave the name of *manie sans délire*, or "madness without delirium," that is to say, without lesion of the intellect. To the question placed at the head of his chapter, "Can mania exist without lesion of the understanding?" ('Traité Médico-philosophique sur l'Aliénation Mentale,' 2nd edit., p. 155), he replies, "We may entertain a just regard for the writings of Locke, and yet think that his notions about Mania are very

incomplete, when he regards it as inseparable from disordered intellect. Like this author, I thought so myself, when I resumed at the Bicêtre my researches on this disease, and I was not a little surprised to see many madmen, who at no time had manifested any lesion of the understanding, and who were under the dominion of a sort of instinctive fury, as if the affective faculties alone had been diseased."

This description, however, only includes one class of cases, those, namely, in which there is simple instinctive fury or excitement—an ungovernable passion, excited upon the least provocation (*emportement maniaque*). Pinel's first example of Mania without delirium (*i. e.* disorder of the intellect) is of this order (op. cit., p. 156).

We know of a case in which a man was an example of strict integrity and honour, but exhibited such extreme violence of passion and irritability of mind, that it was almost impossible to associate with him. He was extremely suspicious, and looked on the dark side of every circumstance and character, and when once he had formed an opinion, it became a prejudice which nothing could surmount. He was not in an asylum, and had he committed a homicidal act, it is very doubtful whether the law would have held him irresponsible. His father and mother lived in a cottage on the edge of a moor, and were both subject to attacks of unmistakable Insanity. At these times they would leave their home and wander among the furze, where they were frequently found laid on the ground by hunting parties.

The right understanding of the conditions to which Pinel applied the terms "reasoning madness," and "mania without delirium," and also the Moral Insanity of Prichard, is much assisted by the adoption of Esquirol's division into *affective* and *instinctive* Monomania. We have, in a former section, referred to this writer's "Affective Monomania," as applied to cases of exaltation. Here, however, we think the use of the term is much more legitimate, and is indeed very convenient.

In the first division, "monomaniacs are not deprived of the use of their reason; but their affections and dispositions are perverted. By plausible motives, by very reasonable explanations, they gratify the actual condition of their sentiments, and excuse the strangeness and inconsistency of their conduct." This condition we spoke of in the first edition of this work as "Mania with general extravagance of conduct." It might

perhaps be described as one of general moral obliquity—dependent, of course, upon cerebro-mental disease. The *ego* itself is perverted (see p. 51).

In the second, "the patient is drawn away from his accustomed course, to the commission of acts which neither reason nor sentiment determines, which conscience rebukes, and which the will has no longer power to restrain. The actions are involuntary, instinctive, irresistible." The *ego* is overborne by an impulse.

Dr Prichard's observations on Moral Insanity apply more especially, but by no means exclusively, to the first division (*Manie raisonnante* of Pinel; *Folie d'action* of Brierre de Boismont). Esquirol observed that Dr Prichard had confounded the instinctive madness of Pinel, with his Moral Insanity; and Dr Prichard, in a subsequent publication, admitted that the terms have reference to two distinct classes of cases. We have already taken occasion to point out the wide area of morbid mental phenomena which this writer's term embraces; and a reference to his own definition may tend to a clearer apprehension of a disorder, which, more than any other, has puzzled the psychologist, perplexed the advocate, and disconcerted the divine. He defined it to be "a morbid perversion of the natural feelings, affections, inclinations, tempers, habits, moral dispositions, and natural impulses, without any remarkable disorder or defect of the intellect, or knowing or reasoning faculties, and particularly without any insane illusion or hallucination."

"The signs of reasoning Monomania," observes Esquirol, "consist in the change and perversion of the habits, dispositions, and affections. . . The understanding is not essentially disturbed, since it assists in the acts of the insane person, and the patient is always ready to justify his sentiments and conduct. Reasoning Monomania has an acute and chronic course. We distinguish three periods in it. In the first, the disposition and habits are changed. In the second, the affections are perverted; and, at length, in the third, a maniacal excitement appears; or else a weakening of the faculties, more or less rapid, leads the monomaniac to Dementia.

"It is necessary to admit," observes Marc, "since facts demand it, that there are two sorts of Monomania, one of which is *instinctive*, the other *reasoning*. The first bears the monomaniac on to instinctive and automatic acts, which are

not preceded by reasoning; the other determines acts, which are the consequence of a certain intellectual operation." (Vol. i, p. 244.)

Thus, then, it is important to remember, that writers who maintain the existence of Moral Insanity clearly hold that it is not necessarily instinctive, impulsive, irresistible. For although (in a loose use of the word) the man morally mad may be said to be irresistibly so—that is, his condition of mind is not voluntary—the examples of so-called irresistible impulse belong to quite a different class. Ignorance of this distinction has often led to deplorable confusion. A case of sudden and irresistible impulse might afford an illustration of Moral Insanity; but many cases of what would be held to be Moral Insanity do not fall under the division of instinctive madness.

Symptoms.—The most striking feature of Insanity in general, and the strongest proof of the presence of any of its forms, is the change which takes place for the worse, in the individual's character and habits. To cases of congenital deficiency of the intellect, however, whether altogether idiotic or only partially imbecile, it is at once manifest that this test does not and cannot apply. In such instances the natural character is itself in an abnormal condition, and ceases to be the standard of health.

This observation is equally true as regards one form of the disorder now under consideration. If there ever be, congenitally, a condition of the moral sense analogous to intellectual deficiency, it is impossible to apply, in such instances, the test referred to—a test which is alone applicable to mental disease when acquired. We have seen many well-marked examples of lunatics, who, on arriving at manhood, were placed under restraint because age brought with it a certain legal responsibility, the absence of which, in early life, rendered the patients' friends willing to content themselves with their own surveillance. In such cases, parents assert that the child, the boy, and the young man, alike presented the symptoms of an inert moral nature, and of an activity of the animal propensities, over which threats, rewards, or punishments exercised a very trifling control.

There was formerly a patient at the Richmond Lunatic Asylum, Dublin, whose case illustrates this class. We are informed that "he exhibited a total want of moral feeling and principle, yet possessed considerable intelligence, ingenuity, and plausibility." "He has never," says Dr. Crawford, "been different from what he

now is; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. He appears, however, so totally callous with regard to every moral principle and feeling, so thoroughly unconscious of ever having done anything wrong, so completely destitute of all sense of shame or remorse when reproved for his vices or crimes, and has proved himself so utterly incorrigible throughout life, that it is almost certain that any jury before whom he might be brought would satisfy their doubts by returning him insane."

For obvious reasons, we are prevented publishing the details of many cases of this description falling under our own observation. We may mention, however, the case of a patient admitted into an asylum at the age of seventeen, labouring under "Moral Insanity and Epilepsy." He possessed decided intellectual vigour, united with an exceedingly obtuse perception of moral responsibility. His father stated that his character had been the same "from the cradle." At nine years of age he endangered the life of a little boy—his playfellow; subsequently, at school, he was characterised by similar mental qualities, learning more quickly than other boys, yet committing many acts of violence. He was, consequently, obliged to leave several schools. Later on he had epileptic fits.

We know of another well-marked case of peculiarity in the temper and moral disposition, manifested from the earliest infancy, in which the intellectual faculties are not only equal to, but above, the average. The disease, or defect, was hereditary. The patient has been in an asylum for years.

The most lucid description of Moral Insanity which we have met with is that given by Crichton Browne. For this reason we quote it, quite apart from the authority which attaches to his opinion, because it is proper to state that it was written a considerable number of years ago. The value of the facts, however, to which he refers, and upon which that opinion was based, is not affected by the course of time. "Moral Insanity is of frequent occurrence in early life. The intellectual faculties of the person affected by it remain entire and unimpaired. He is perfectly capable of perceiving, and knowing and judging. He cherishes no delusion. He cannot in the ordinary and *legal* acceptation of the term be pronounced insane. And yet he is to all intents and purposes of unsound mind, and as much requiring guidance, restraint and treatment as the furious maniac. He suffers from entire perversion of the moral principle, from the want of every good and honest sentiment. He is actuated by impulse, or by the most selfish, depraved, and cruel motives; he presents, in short, a perfect picture of a

desperado and a ruffian. The existence of Moral Insanity, like the existence of everything else, has been called in question, and at the present day there are not lacking those who will recklessly commit the moral monomaniac to the scaffold or the penitentiary, little thinking that in so doing they punish disease and not crime. We are forced to acknowledge Moral Insanity as an actual disease by the most cursory glance at the previous history of some of those by whom it is manifested. Many of them from being refined and virtuous, and upright and prudent, have become coarse and licentious, and dishonest and reckless. We believe that many of our jails and penitentiaries are peopled by such." ('Journal of Mental Science,' 1860, p. 314).

Dr Prichard in his smaller volume, 'On the Different Forms of Insanity' (2nd edit., p. 157), speaks of a youth, "an incorrigible thief, and addicted to falsehood and deception in every way and apparently devoid of all perception of right or wrong." The mother of this boy was subject to attacks of acute Mania. Although he mainly had in view cases in which the moral character underwent a change, Dr Prichard thus expresses himself in regard to the class now referred to:—"It seems not improbable that many persons, wrong-headed and perverse *through life*, and singularly capricious and depraved, would afford in reality, if the matter could be ascertained, examples of Moral Insanity, native or *congenital*." Other examples of moral madness in early life will be found in Ray's 'Medical Jurisprudence of Insanity,' p. 99, and in Esquirol's 'Maladies Mentales,' tome ii, p. 115. Dr West says that, in his experience, children are more subject to moral than intellectual aberration.

It must, of course, be admitted that ordinary idiots are usually to a large extent idiotic *morally* as well as intellectually; but we have not yet seen sufficient evidence to prove that a condition deserving the name of moral idiocy exists, in connection with an average development of the intellectual faculties, notwithstanding the statements of some observers, whose opportunities of observation, both in regard to the insane and idiots, have been very large. Dr Woodward, formerly physician to the State Lunatic Asylum in Massachusetts, held that, "besides a disease of the moral powers, there seems to be, in some cases, something like moral idiocy, or such an imbecile state of the moral faculties *from birth*, as to make the individual irresponsible for his moral actions." He adds, however, that "the persons to whom I refer have rarely much vigour of mind,

although they are by no means idiots in understanding." More strongly speaks Dr Maudsley, after observing that "there are certain beings who are truly moral imbeciles." "It is remarkable, indeed," he adds, "what an acute intellect may sometimes coexist with an entire absence of the moral sense." (Reynolds' 'System of Medicine,' art. *Insanity*.)

Although we do not admit what can properly be called moral idiocy apart from more or less lesion of the intellect, we fully grant that there may occasionally be good intellectual abilities, in association with congenitally feeble moral powers and volition (a moral *insensibility*), and therefore a proportionate irresponsibility.

During fœtal life, diminished nutrition of the body or diminished nutrition of one part and increased nutrition of another, may have occurred; and thus resulted in the production of an undue proportion or predominance of a mental function. There is, indeed, during fœtal life (and we may practically widen this period, and say, during that which elapses before the character is or can be observed), abundant opportunity for the influence of perverted nutrition; whether it be in the formation of protoplasm and new cells, or the subsequent processes connected with the growth and organisation of the tissues; or again, whether the elements of the circulating blood be in an abnormal proportion; or lastly, whether it be the mysterious but well-recognised principle, in virtue of which there is an hereditary predisposition to disease, which rules over and perverts the nutritive processes. Thus, in a case of what would by some be regarded as congenital moral imbecility, the mother of the patient was the subject of malignant disease of the uterus during gestation. Now, it is possible that this condition of the mother interfered with the proper nutrition of the cerebral tissue of the fœtus, and was one among other causes which contributed to the final result. Persons born with talipes, or strabismus, owe their defect to some disease of embryo life. In like manner, during the same period of existence, the brain may undergo pathological changes which induce defective *moral* power.

A child born perfectly healthy may, through some illness or accident during early life, become completely changed in moral character. We know a case in which a child had pertussis at three years of age, followed by symptoms of hydrocephalus, from which she recovered; but ever after, there was a marked perversion of the moral feelings, without any failing in the perceptive faculties; and, although her judgment is far from good, there is no decided lesion of the understanding. She is quick, has

an excellent memory, and can acquire knowledge easily. Her parents state that, although, in the abstract, she knows the difference between right and wrong, she has appeared incapable of following the former like other children. Education failed to counteract the most determined propensities to falsehood and theft, and at the age of puberty the sexual instinct was strongly developed, and has ever since formed a prominent feature of her malady; in consequence of which she was placed in an asylum when only seventeen years of age.

We know also a case of Moral Insanity which dates from an attack of scarlet fever occurring when a boy was under five years of age.

From that time there was a certain change of character, a want of self-reliance or ability to help himself in any difficulties, so that he constantly wanted help in his employments. Great excitability was also manifested. As he grew up he practically reversed the motto *esse quam videri*, for if he had the *videri* in anything, the *esse* was a secondary consideration. He excelled in spelling at school, but not in other departments of knowledge. He was a good reader of ordinary tale books and of popular scientific works; his memory was very tenacious, not only of the facts, but of the very words. The change in his moral nature was strikingly shown by his appearing to lose the distinction between truth and falsehood, he having been truthful and conscientious before, and while making a high profession of religion he was deceiving his friends and himself also. He chose low society in preference to the refined associations by which he was surrounded at home. For some time after his regard for truth had disappeared, he distinguished between *meum* and *tuum*, but this distinction was after a while removed also; and he possessed himself of some articles of little value, which he evidently appropriated from a morbid desire to steal, and not from any use he could make of the articles. To immorality, in the popular sense of the term, he has not manifested any tendency.

Some time after he attained his majority, his friends had reason to fear that he would commit some act of violence which would bring him into the hands of justice, and, after having endured an amount of anxiety and suffering which those only who know these painful cases from practical experience can fully estimate, they obtained the opinion of two medical men familiar with mental disease, who had no hesitation in certifying to his insanity, and he was placed under proper care and restraint. We may add that there is no known hereditary taint of Insanity in this gentleman's case, and that everything in his training and surroundings was calculated to foster, without morbidly exciting, religious feeling and conduct.

Perversion of the moral sense may also occasionally be traced to accidents, followed by injury to the bodily structures; as a fall from a horse, or a blow by which the head has sustained injury. Thus, among the cases falling under our own notice—

A lad of good abilities was thrown from a horse, when twelve years of age, and his head sustained much injury in consequence; the skull bearing evidence in after-life of the accident. For several months afterwards the mind was weakened, but then gradually recovered its tone; at twenty years of age, however, he suffered from Melancholia, followed by alternate attacks of excitement and depression, but was not placed in confinement. Ultimately it was necessary to place him in an asylum, when he afforded a marked example of Moral Insanity.

A case recorded in Dr Wigan's work 'On the Duality of the Mind' is generally known, and well illustrates the influence of injury to the cerebral substance upon the moral character. A blow upon the head, given by a teacher with a ruler, was followed by an entire alteration in the moral feelings. Mr Cline trephined, there being a very slight depression of the bone, and a bony spiculum was found pressing upon the brain. Perfect recovery of mind followed.

Dismissing the consideration of congenital cases of defect or disease of the moral faculties, and those arising from various causes in infancy and youth, we may pass on to those in which Emotional disorder comes on or is first exhibited in adult life; and here the test already spoken of may be most properly applied. The standard of mental health may then justly be sought for in the natural and habitual character of the patient. This it is which is now altered, and the symptoms by which it is rendered manifest may next be considered. Usually the change in the feelings and conduct of the patient is gradual. Frequently he is more absorbed and reserved, and on any provocation, however slight, is unreasonably irritated. He becomes suspicious, liable to attribute false motives to his friends and others, and to cast ungenerous reflections upon his nearest relatives. The husband suspects the fidelity of the wife, the wife that of the husband, without the slightest foundation. The patient is observed by strangers to be morose; and, as the clouds gather, his acquaintance become conscious, without knowing exactly why, and very probably without once supposing the man to have become, in plain English, mad, that he is, somehow or other, an altered being.

At last the storm bursts; and some act is committed of an outrageous character. He is then regarded as either insane or criminal; the former, probably, if the act does not make him decidedly amenable to the laws of his country, and his destination is the asylum: the latter, most probably, if the act has been homicidal, and he is consigned to the executioner. In other cases an individual has been subjected to over-exertion of mind, his powers overtasked, or his feelings put upon the stretch, in consequence of anxiety or unaccustomed responsibility. He then finds himself susceptible to the slightest mental emotion, loses his sleep and rest, is conscious of more or less uneasiness about the head, a sense of tension and dull aching pain, is probably

troubled with palpitation of the heart, and finds himself unequal to the discharge of his usual duties. His digestive organs are also often disordered, his appetite uncertain, the secretions depraved. In addition to all this, he may be distressed by certain impulses and tendencies which are alike repugnant to his reason and to the dictates of his moral nature. Often the impulse is to do violence to himself and others, or simply to break glass or articles of furniture. We know a case in which the patient was, in the first instance, strongly impressed with the desire to obtain pistols; he was astonished and perplexed with so strange and purposeless a desire.

Under these circumstances, it is no unusual thing for the patient to deliver himself up to the care of some judicious friend, or an asylum; and a happy thing it is for himself and society when such is the case.

A patient, the subject of Emotional Insanity, thus expressed herself to the writer:—"I have my reason, but I have not the command of my feelings. Circumstances in life create feelings and prejudices which prevent my passing through life smoothly. My *intellect* is not insane; it is my *feelings* I cannot control." It would have been impossible to have described her state more correctly. Since we first recorded this case the patient has committed suicide.

In the following case there was no delusion in the first instance, but eventually, when seen by the writer, there was a distinct delusion of persecution by the police, and indeed of conspiracy on the part of the asylum authorities and others. Another element in this case (whether to be regarded as a symptom or a cause of moral perversion is doubtful) was intemperance, after being respected as a sober clergyman. It is remarkable that when in the asylum where he was first confined, it was noted that "he has no craving for drink, and avoids it." A mixed case like this is highly instructive, and shows how at different stages of the disorder, a different opinion might fairly be held in regard to the form of his insanity, how difficult it would be to prove distinct intellectual aberration in the early stage, and how the salient symptoms of the case are referable to a perversion of the higher emotions—the affections, the temper, the disposition.

A. B.—æt. 56, a clergyman in good position and respected, became altered in character. Among other things he gave way to drink. He was separated from his wife in consequence. One day when he was partially intoxicated he assaulted a

policeman when interfered with, and was committed to gaol. Afterwards he was transferred to an asylum, in the case-book of which it is stated, "On *admission*, he is an intelligent-looking man, with a very well-developed head, and he is of good address, but his manner is a little excitable and nervous, and far too deferential for a man in his position. He ascribes his assault on the police to an irresistible impulse to retaliate what he considered a wrong done him by their seizing him. He considers it was justifiable anger, but that it was on the whole unbecoming his position as a clergyman. In fact he reasons most intelligently from false premises. No delusion noted.

"May 30. While able to converse on ordinary topics very intelligently, and support his arguments fairly, as a rule showing great ingenuity in accounting for the eccentricities of his conduct, yet the most trivial circumstances are apt strongly to excite his feelings, and then his reasoning powers are overbalanced and crowded by passion. Inordinate variety, and craving for sexual intercourse, are very marked characteristics of his state, *but he has no craving for, and avoids stimulants.* He is extremely plausible, affected with extreme moral obliquity, so that he is constantly making false statements without betraying any sense of shame or detection, and yet he appears at times conscious of his failings, and makes endeavours to conceal them. Shows no affection for his wife and family.

"December 20. A wish to command others is strongly asserting itself, nevertheless he endeavours with great plausibility and cunning to become all things to all men in order to propitiate them if he thinks anything can be gained by it. Moral sense very perverted. No evidence of delusion.

"February, 1876. Has much improved, but is still apt to domineer and assert his opinions dogmatically on subjects of which he has no knowledge, and is not confused on the proofs of his ignorance being demonstrated.

"March 31. Much less obtrusive, and has not given way to temper lately, endeavouring to exercise great self-control. Has little reverence for his profession.

"April 10. Has been quiet, orderly, and gentlemanly, sleeps and eats well, but his manners are eccentric and extreme. Egotism is a marked feature in his case. The moral sense is much blunted, and his conversation betrays an unbecoming zest for immoral stories, while he jests at his own immorality.

"May 26. Is able to conduct himself properly, and being as free from delusion as from the first he is, by order of the Secretary of State, discharged."

Subsequently he committed an indecent assault, and was committed to another asylum. When seen there, we found him a man of extreme plausibility, utterly untruthful, and with decided delusions in regard to conspiracies against him, especially on the part of the police. The superintendent of the asylum made the striking observation that he began by telling what he knew was a lie, and ended by really believing it. Thus the delusion owed its origin to moral perversion in a once respected clergyman.

In those cases in which delusion cannot be detected along with moral perversion, there is very frequently a certain feebleness of mind, or even childishness, which, although not so great as to meet legal definitions of imbecility, is from our present point of view sufficient to take the case out of the category of moral insanity, assuming such to exist, pure and simple. It is obvious that there is in such a case as the following, for example, a condition of the intellect which a Judge would be very likely to decline to admit to be so deficient as to lessen re-

sponsibility, yet the man is in an asylum; not, indeed, because of his intellectual weakness, but because he is dangerous to society.

W. W. was, when recently seen at Brentwood, under Dr Campbell's charge, a man of twenty-nine years of age, who displayed no delusion, and was not in a mental condition, which in a single interview suggested imbecility. His physique was good. On asking Dr Amsden why he was in the asylum, the reply was given that he was affected morally; that this showed itself in bestial acts, and in violence of temper. On further inquiry we found that, although never strong minded, and apt to cry like a child at trifles, and make foolish remarks, "he can converse on ordinary topics like most members of the class from which he is derived." Here then is a case which a medical psychologist might regard as one of congenital imbecility, if the term be employed in a mild sense, but which it would astound a jury to be told was such, if they had an opportunity of seeing and conversing with him. "For legal purposes," Dr Amsden remarks, "the absence of marked intellectual defect is a bar to proof of incapacity for the management of himself and his affairs. The moral sense is chiefly implicated as shown by violent passions, cruel disposition, and want of control over emotion. He was removed from a workhouse to the asylum by the Commissioners in Lunacy, for throwing stones at the old men. He is active and industrious, but not trustworthy." He learned to read and write in the workhouse school. He is stated to be "very quick at learning anything, is a good dancer, and one of the singers at chapel." W. W. was illegitimate, through, it is believed, an incestuous union; the mother, whom we have examined, is a weak-minded woman. Another son was very dull, married, and had a daughter, also of weak mind.

The question naturally arises, Are the physical symptoms of the morally insane such as might be looked for if they are the subjects of a physical disease? The answer has already, to some extent, been anticipated by the enumeration which has been made of several well-marked premonitory symptoms. It should also be remembered that in many of the insane, in whom there is indisputable lesion of the *understanding*, the most careful scrutiny will fail to discover any disorder of the circulation, as indicated by the pulse and the respiration, or of the functions, of secretion and excretion, as indicated by the tongue, the alvine evacuation or the renal secretion. And, with the exception of the congenital class of cases already referred to, it may, we believe be safely affirmed that, among those patients whose moral nature appears to be specially invaded by disease, derangement of the physical health is, in the early stage, as frequent as among those whose intellect is manifestly disordered. And the termination of cases of Moral Insanity in some unmistakable disease of the nervous system, as General Paralysis, will not unfrequently solve any doubt which may have been felt previously in regard to the disease of one or more of the bodily organs.

Further, Moral Insanity most frequently assumes a chronic form, and therefore it is not surprising if physical symptoms are sometimes not well marked. In acute forms, that is to say, when the patient is restless and excited, and perhaps commits a breach of the law, the physical symptoms are generally obvious enough.

The exceptional class above spoken of includes those cases of perverted moral feeling, the history of which extends back to the earliest infancy, and probably to congenital malformation of the brain, and in which the proof of an abnormal physical condition is to be found in various facts which a careful inquiry into the family and particular history of the patient will elicit. But even in these cases, there is one physical disease to which the patient, in a large number of instances, is or has been subject, and that is epilepsy. Nor can we forbear the expression of the belief that convulsions in infancy are, in relation to their ultimate effects on the mind, not sufficiently recognised. Often do these pass away, and are forgotten, when the dentition is accomplished which induced them; but some portion of the cerebral tissue has received injury, which in any other tissue of the body, were its severity two-fold, would be easily recovered from, but which in so delicate a tissue as the nervous—in which the very process of repair is so hazardous to the integrity of the associated function—permanently injures the moral or intellectual powers of the child, and is painfully perceptible as he grows up to manhood.

Ætiology.—In the cases which we have given we have already specified various causes. See also the chapter on causes of Insanity generally (p. 57).

Prognosis.—Unfavorable. See p. 136.

The period which has elapsed since the first edition of this work was published has been marked by two opposite currents of medical opinion. On the one hand, the tendency has been to ignore not only the name but the doctrine of Moral Insanity.* On the other, some of those most conversant with crime are inclined to regard it as closely allied to, if not identical with Insanity. Thus, Mr J. B. Thompson, the resident surgeon of

* See an extraordinary proof of this in an article in the 'American Journal of Insanity,' Jan., 1873, by Dr Ordronaux. While a protest may be entered against the abuse of the doctrine, the position taken by the author of this article in regard to Moral Insanity seems to us, we confess, like "an attempt to set back the clock of the century, and to revert to superstition and supernaturalism in medicine."

the General Prison for Scotland, at Perth, in an article on "The Hereditary Nature of Crime," in the 'Journal of Mental Science,' Jan., 1870, says, "From large experience among criminals I have come to the conclusion that the principal business of prison surgeons must always be with mental disease; that the number of physical diseases are less than the psychical; that the diseases and causes of death among prisoners are chiefly of the nervous system; and, in fine, that the treatment of crime is a branch of psychology." Although it does not follow from this allegation that those criminals whom Mr Thompson would regard as labouring under diseases of the nervous system are bright intellectually (the contrary being in many instances the case), the inference is inevitable that, if the position taken in this essay be established, a large number of persons possessing so much intelligence as to be regarded by judge and jury as *compos mentis*, are insane and irresponsible. The conclusion is practically much the same whether we regard a criminal as the subject of Moral Insanity, or of an intellectual defect which a court of law refuses to recognise.

The writer believes that a fair consideration of such cases as those which he has given from his own experience, will lead to the conclusion that *congenital* and *acquired* mental conditions are to be met with, of which the broad salient features consist in emotional irregularities rather than delusion, hallucination, or imbecility, although some feebleness of mind will usually be detected. It is the part of the observer of disease to endeavour to seize such distinctions, instead of attempting to reduce them to one uniform symptomatological level, and so losing the practical lesson which significant physiognomical lines of morbid phenomena are calculated to teach. The distinction in question has been forced upon the minds of such alienist physicians as Pinel, Esquirol, and Guislain, while Griesinger, against his prepossessions, was driven to admit it in one form, namely, "transitory mania," not from speculative considerations or metaphysical refinements, but from the occurrence of cases of moral defect and disease which would not fit in with their previous theories, and which were indeed altogether foreign to their notions.

At the same time, we hold that the cases are rare in which disorder of the intellectual faculties cannot sooner or later be discovered by careful observation, and to this end the attention of the observer ought to be carefully directed in each case.

We say "sooner or later," because seeing that insanity usually springs in the first instance, from the depths of the moral nature, no delusion may have developed itself at the time when irregularities of conduct or dangerous acts occur, and when the practical question presents itself, whether an individual is labouring under cerebral disease. Judging from past experience, we may be satisfied that strictly intellectual disorder will before long declare itself, but this by no means destroys the importance of recognising the disease as such at the earlier period, just as when in scarlatina the rash has not yet come out, or in rare instances never does, we do not deny the presence of the disease, but recognise it in spite of the absence of the eruption. Whatever, then, may be thought of extreme theories which have been advanced in regard to Moral Insanity, we agree with Griesinger that "it should constantly be borne in mind, that an individual may talk quite rationally, and at the same time show by his acts and by his conduct (and even by what he does not do) that he is mentally deranged." ('Die Pathologie und Therapie der Psychischen Krankheiten,' 1871.)

SECTION VII.—Homicidal Mania.

We proceed to consider that most important form of mental disorder which passes under the name of the homicidal.

Synonyms.—*Homicidal Insanity; Monomanie meurtrière, Monomanie homicide* (Fr.); *Mordtrieb* (Ger.).

Definition.—Although usually defined as simply an irresistible impulse to kill, we must for practical purposes treat under Homicidal Insanity or Mania, cases which, while characterised by homicidal deeds and irresistibility, arise from morbid motives, and even delusions. It is generally classed under the Monomanias; at the same time it may, and often does, coexist with general defect or disorder of the mind. In treating of hallucinations, it was stated that a homicidal act may be the result of hearing imaginary voices commanding the patient to kill. Motives, therefore, very dissimilar in their nature, and equally the result of disease, may lead to the same act; it may be fairly presumed, however, that such hallucination, so far from being the first in the series of morbid mental changes, is, in some instances, itself the offspring of a diseased propensity. Attention is especially directed to this observation, because it is not uncom-

mon for authors to charge the intellect with being the instigator of an act, of which it appears to be the proximate cause; overlooking the possible antecedent genesis of the act in perverted propensities, which might suggest and give their own peculiar tinge to any hallucination or delusion. This, however, need not prevent the admission, that the primary cause of homicidal acts may, in other cases, be traced to the understanding; the propensities playing but a secondary *rôle* in their development. Thus, a gentleman attempts to kill his wife, because he labours under the delusion that she administers poison to him in his food. Again, should an individual, anxious to commit suicide, shrink from the execution of the act, he may murder another person, in order that he may himself be put to death. But here the origin of the malady is not to be found simply in an intellectual process of thought; the motive lies deep among the feelings, and is even here closely associated with the homicidal propensity, Further, a man may terminate the earthly existence of his children in order that they may be spared the trials of this life and be safely landed in heaven. But apart from all these delusional motives, there remains, it is alleged, the unreasoning, blind, and forcibly impelling impulse to kill.

We cannot more clearly convey the view which is taken by the upholders of Homicidal Mania than by quoting from the article by Crichton Browne, already laid under contribution; "That insane and irresistible impulse prompting to murder and destruction which has been designated Homicidal Monomania is a malady from the incursions of which childhood is not exempt. The powerful, sometimes unconquerable impulse felt by those suffering from this disease originates in various circumstances, and various reasons may be given for a homicidal act by the monomaniac committing it. He may believe [when intellectual disorder is present] that he is conferring a real benefit upon the person he kills, or that, by destroying life, he is obeying the behest of Heaven. . . . . Or he may do it [when intellectual disorder is not present] from a pure love of destruction and cruelty, or from the force of imitation. Frequently a mere blind, motiveless impulse to destroy is felt, against which the monomaniac himself earnestly strives. Examples of this disease as occurring in early life are by no means uncommon." (After supporting this opinion by cases, it is added, "Like propensities we have seen manifested by the eldest son of a gentleman occupying an elevated position in society; one who, from his

very cradle, had mingled with the gentle and refined. At his own earnest request this boy was permitted to act as butcher to all the farmers on his father's estate. His favorite amusement was putting fowls and rabbits to the most cruel and agonising deaths, and he gloried in gratuitously shooting the roes whilst with young. Whilst repairs were going on at his father's house, he sawed through the scaffolding in such a manner that when the workmen mounted it, they might be precipitated to the ground. Such is destructive or Homicidal Insanity." (Op. cit., p. 310.)

Classification and Symptoms.—In former editions of this work we gave a carefully prepared analysis of the most remarkable cases of Homicidal Mania, classified under two heads—1st, those cases in which there is no marked disorder of the intellect, examples of Emotional Insanity; 2nd, those in which such disorder is more or less apparent. The former class was subdivided according as there is, or is not, evidence of premeditation and design. In the latter class were included cases marked by deficiency of intellect, as Idiocy, Imbecility, or a certain feebleness of mind not amounting to these pronounced states (a most important class); while others are rather indicated by a state of exaltation, shown by delusions, hallucinations, &c., these usually constituting the motive, but not necessarily so, as it may be quite impossible to connect them with the commission of the homicidal act. In the present edition we omit the particulars of these cases, with a few striking exceptions, and shall content ourselves with giving the results of the former analysis and adding several fresh examples which illustrate this form of mental disease.

Analysis of cases.

I. Without marked disorder of the intellect:			
(*a*) Without premeditation or design	31		
(*b*) With „ „	4		
		—	35
II. Cases in which there was more or less disorder of the intellect:			
(*a*) With deficiency of intellect	5		
(*b*) With delusions, &c.	10		
		—	15
Total			50

As an illustration of the first division of the first class, occurs the case of a woman reported by Dr Skae, in his 'Report of the Royal Edinburgh Asylum for 1850.' It is an excellent

example of this class. There was no disorder of the intellect, no motive, and no design evinced; only an impulse. "She deplored in piteous terms the horrible propensity under which she laboured."

Dr Wilks informs the writer of a case under his care in which a well-marked homicidal impulse was developed. The patient, a lady, consulted him on account of an impulse which she at times experienced to kill her boy, whom, so far from feeling any antipathy to, she fondly loved. She bitterly deplored and earnestly desired to be delivered from it. She was wholly at a loss to account for this feeling, and she stated that when it was present to her mind she left the room, in order to prevent herself carrying it into execution. There was not in this case the slightest suspicion of epilepsy.

We have recently examined a young man, formerly a coach-driver, who along with various serious physical symptoms has been the subject of a mental one of great interest in this connection. While driving four-in-hand, the horses ran away, and before he succeeded in stopping them he was greatly exhausted and frightened. From that time (two years) he has had diminished power over his arms, he has now slight ptosis, diplopia and amblyopia, with other symptoms not important to our present purpose. The interesting point is this: that a short time since, on a day when his motor power had been worse than usual, he was standing with a boot-jack in his hand near one of his children, and experienced a sudden impulse to give the child a severe blow with it. He instantly threw it aside, horrified at the impulse. The man would be regarded as quite sane. It is clear, however, that the disease has only to advance a little further to render the commission of a sudden and homicidal act possible, without the patient being insane in other respects.

In the Essex County Asylum there is at the present time (1878) a man whose case constitutes an important contribution to the subject now under consideration. No doubt the history suggests masked epilepsy, but proof of it fails, and if proved, the importance of the case would not be destroyed. On examining him with Dr Amsden we elicited the following particulars:

D. P., aged 52, married, a labourer. A year ago he was for a short time melancholy. He was treated at home, and recovered. A fortnight ago, when talking kindly to his wife, he cut her throat. There was no provocation whatever. He

cannot account for it. He greatly regrets it. He had not, he says, the slightest motive for doing it, for he was on the best terms with his wife. It appeared that a short time before, a daughter had fallen into disgrace, and this preyed upon his mind. He was not unconscious when he committed the act, and there is no proof that he ever had *petit mal*. He has never had fits. His father is stated to have died of epilepsy. He is a dark bilious-looking man. He looks depressed, as is natural, and complained on admission of sleeplessness. In the case-book it is stated, "While confessing his homicidal attempt, he deeply deplores it, says he is fond of his wife, that they never had any disagreement, and that it was a sudden and uncontrollable impulse which overcame him. No delusion is detected, and he converses intelligently. General health fair. Slight cephalalgia."

Such cases prove beyond all doubt that there may arise a morbid impulse, sometimes overpowering, to destroy life. It is idle to attempt to evade the force of the evidence again and again brought forward to establish this fact, or to endeavour to tone it down in order to meet the requirements of our law courts. Psychological science has suffered grievously already from the attempt to make a sort of compromise between the simple teaching of mental pathology in these cases, and the learned but false *dicta* of the judges. Thus fettered, some alienists have united with the lawyers in denying the doctrine of irresistible impulses and, indeed, of Emotional Insanity, pure and simple, altogether. Disease, however, will not alter her character in accordance with the preconceived theories and requirements of the law; and the only really scientific and dignified course for medical psychologists to pursue, is to state psychological truths fearlessly, and leave the law to take care of itself. This would be much better than to exercise an immense amount of ingenuity in attempting to discover delusions and other proofs of intellectual disorder—an attempt which no one would dream of making in regard to the same case if honestly discussed from a purely medical point of view, or reported in the case-book of an asylum. To those who, in opposing purely Emotional Insanity, assert that this condition is only an early stage of what will eventually prove to be also a disorder of the intellect, it is enough to reply that, whether a temporary or a permanent state, the fact remains that a criminal act may be committed in consequence of cerebro-mental disease, without as yet any apparent lesion of the perceptive and reasoning powers.

The greatest difficulty, no doubt, arises in those cases of uncomplicated Emotional Insanity in which the mental disorder is of a sudden and transitory character, not preceded by any symptoms calculated to excite suspicion of Insanity. Proof of

hereditary predisposition may alone be forthcoming, and not even that. It is probable that in nearly all, if not all instances, there has been *petit mal*. This form of disease has received considerable attention under the name of Mania Transitoria.* (*Vesania anomala*, Sanger and Retzen). A thorough knowledge of the preceding mental condition would so generally reveal more or less morbid emotional disturbance, that we believe it to be exceedingly rare, if the definition of this disorder requires that there shall be a sudden paroxysm without such antecedent manifestation, that the duration of the morbid state shall be short, and its cessation sudden. In this emotional disturbance we should include the morbid feelings of the patient, both mental and physical; and if the truth could be ascertained, we have no doubt such would in the vast majority of cases be discovered, but as they rarely can be got at, and are, under the circumstances, open to suspicion, it happens that, practically, in some cases involving criminality, there is no reliable proof forthcoming of any prior history of mental disorder. Cases are therefore not unfrequently met with, paroxysmal in character, of brief duration, and which suddenly cease, so far as the patient's history allows us to judge.† It must also be remembered that, still more frequently, outbursts of maniacal fury, including destructive and homicidal impulse, occur without the other condition being fulfilled—previous sanity.

M. Legrand du Saulle, in a discussion at the Paris Medico-psychological Society, Jan. 29th, 1872, reported the case of—

* See Krafft-Ebing's 'Die Lehre von der Mania Transitoria für Aerzte und Juristen dargestelt.' Erlangen, 1865.

† On this form of mental disorder the reader will find a useful article by Dr S. T. Clarke, in the 'American Journal of Insanity,' Jan., 1872, in connection with the case of Pierce, found "not guilty, on the plea of Insanity," and one by Dr Jarvis, July, 1869, on "Mania Transitoria." Castelnau ('Annales d'Hygiène publique et de Medicine legale,' xiv. 217, 1851) on "La Folie instantanée," concludes that "there exist instantaneous changes in the mental faculties, *i. e.* instantaneous Insanity," and gives many instances. Dr Devergie, in 1858 (vol. xi) concurs with Castelnau, though he points out that there is generally some mental irregularity previously, as well as heredity. He reports a case which was decided to be one of Transitory Mania, by Calmeil, Tardieu, and himself, the Court acquitting the prisoner (who killed his mother-in-law) on this ground. Devergie observes that "in the short period of seventy years we have passed from incredulity, or rather the most profound ignorance of the distinctions of Insanity, with such immense advantage, that now our judges and juries accept as founded on evidence not only delusions on a single point (Monomania), but even those transitory aberrations which in the world's judgment transform a man of previously honorable character into a criminal."

Theodore, æt. 26, intelligent rather above the average, of good conduct and great sweetness of character, who one day assassinated two men without premeditation, without motive, and without apparent excuse. He asks, Had he been drinking? Had he epileptic vertigo? and replies that the perpetrator of this inexplicable crime seemed to have acted under the influence of a transitory attack of Insanity. He was sent to an asylum, where on admission he was very calm and reasonable, and was soon occupied in the office. After a certain time, his mental health being always good, the doctor desired he should be discharged. The prefect refused. For five years the doctor and the prefect respectively proposed and forbad his discharge. At length the patient appealed to the Minister of the Interior, who directed an alienist physician to examine him. His report was favorable, and his release was ordered, subject to a monthly examination by a medical man. M. Legrand du Saulle was appointed, but at the end of eighteen months this oversight was dispensed with. Soon after came the war, and the doctor does not know what became of him. He says one thing always struck him in his interviews—the absence of all remorse for his act or any consideration of the families of his victims. He could never work upon his feelings in respect to them. One day he told the doctor he had had his salary increased, but that unhappily he had no family to benefit from it. "You forget," replied the doctor; "the honest man who has involuntarily injured another, is he not bound to repair the injury? Half your earnings belong to the widows and children of the two men you have killed." The speaker only succeeded in provoking a slight smile.

M. Legrand du Saulle ends the account of this case by observing that in the face of this wounded egotism, this "Sécheresse affective," and absolute want of every mark of compassionate sentiment, he said to himself that Theodore could only be an epileptic. At the same time he could not undertake to prove it. (See 'Annales,' May, 1872, p. 413.)

That the mere act itself, however strongly suggestive of Insanity, must in the absence of collateral proof be taken as evidence with extreme caution, is most true. Usually, we believe there will be some decided evidence procurable of hereditary disease or of a change in the feelings prior to the committal of the act—generally of both—and yet Griesinger was compelled against preconceived ideas to admit that the act, and the act alone, might constitute sufficient evidence of the Insanity of the homicide. "Are there not cases," he asks, "in which in criminal deeds a morbid mental state exists and has an influence, and yet presents no external manifestation?" And he replies, "I believe it possible. . . . . Who would dare to deny the possibility of active organic influences of a morbid nature, which although not externally noticeable, might, when disturbed and disordered at the moment of action, turn the scale towards crime?" And he says he was constrained in a case of murder to admit that "neither before, nor at, nor after the

deed, did we find certain signs of mental disease." ("Weder vor, noch bei, noch nach der That finden wir bestimmte Merkmale geistiger Störung.") Griesinger considered the act must have been due to *petit mal*, and that this disease had weakened volition, without, however, any external mental symptom. ('Die Pathologie und Therapie der psychischen Krankheiten,' p. 123. Stuttgard, 1861. See also 'Syd. Soc. Trans.,' by Drs Robertson and Rutherford, p. 119.)

The presence of epilepsy is unquestionably a point of extreme importance. In doubtful instances careful inquiry should be made whether epileptic seizures, however slight and transient, have been observed. Some of the most dangerous homicidal lunatics, without delusion, are subject to attacks of epilepsy; they may be under the influence of destructive impulses only when a fit is threatened. See "Epileptic Insanity."

At the York assizes a man charged with the murder of a policeman was with difficulty saved from the gallows on the plea of Insanity, the result of epilepsy. The defence, as expressed by the prisoner's counsel, rested "upon the plea that at the time of the commission of the homicide at Huddersfield, he was under the influence of a well-known species of Insanity, viz. Mania connected with epilepsy, indicated by a blind uncontrollable fury, exhibited on the slightest provocation or injury, upon the use of a full diet, or the use of small quantities of intoxicating liquors." The prisoner, after the murder was committed, amused himself with singing songs, apparently unconscious of the gravity of the crime, and exhibiting no symptoms of regret for the injury he had done or fear of the consequences to himself. The successful issue of this case contrasts with that of Bowler, tried some years previously for shooting at Burrows. The defence was epilepsy, the prisoner having been on one occasion brought home apparently lifeless after a fit, from which time a great change took place in his character and habits, he eating his meals almost raw, and lying on the ground in the rain. Although among other proofs of Insanity present he was suicidal, he was found guilty and executed, on the ground that he could distinguish right from wrong!

"The existence of instinctive monomania has," observes Marcé, "been denied, and it is said that these impulses are mostly associated with epileptic vertigo. These objections are not without value, but they appear to me insufficient to abolish this class of instinctive monomanias. If an impulse has often been accompanied by a delusion or hallucination, the fact of an irresistable impulse remains so predominant among all the other symptoms, that it stamps the patient in a way which strikes one at the first glance . . . . In spite of all that may be said, there are unquestionably instinctive monomanias free from all complication." (Des Maladies Mentales, p. 381.)

Some cases of alleged Homicidal Mania fall under the desig-

nation of Uterine or Skae's Amenorrhœal Insanity, and constitute when established, illustrations of this form of mental disease.

A young cook, in good health, with the exception of disordered menstruation, had a gentle disposition, but at each menstrual period she became maniacal and would pursue with a knife any one who displeased her. After menstruation she was well, and regarded her acts in their true light. (Marc, vol. i, p. 317.) See also in the same work (vol. ii, p. 112), the case of A.B.—, a female, aged twenty-six, who experienced at each menstrual period a strong homicidal impulse.

A striking example of a powerful impulse to destroy life occurred in a schoolmaster, not long ago, in Paris.* It is especially interesting, as showing the power of self-control up to a certain point.

A young man, æt. 25, and of gentlemanly appearance, after giving his address, and declaring himself to be a schoolmaster in a certain well-known college, begged that the Commissary of the Police would take him in charge with a view to his confinement in the Asylum of St. Anne. He then explained that he was not mad in every respect; on the contrary, he possessed the full use of his mind; only while sleeping among the pupils confided to his charge he was seized with the most destructive inclinations. Night after night in an agony of fear he had struggled with himself, and it was with the greatest difficulty that so far he had succeeded in restraining his intense desire to strangle one or two of the little boys. Now all his energies were exhausted; he felt that this unknown power would ultimately triumph over him, and rather than commit the crime, he placed himself in the hands of the police. At this moment a boy accused of theft was brought into the room. The eyes of the schoolmaster were immediately lit with a strange light, and had it not been for the timely assistance of a brawny policeman, the boy would have been throttled before the very eyes of justice.

There are some cases of Homicidal Insanity in which, while the symptoms unquestionably establish unsoundness of mind and irresponsibility, there arises the suspicion that revenge has to some extent prompted the act. This and other motives are not unfrequently mixed up, in Insanity, with such symptoms.

In May, 1872, a soldier named Jordan, æt. 39, under the influence of a homicidal impulse, destroyed the life of a child by cutting its throat with a razor.

He was a gunner in the Royal Artillery at Climping, near Littlehampton, Sussex. Now, in this case there was a certain amount of evidence to indicate revenge as a motive for the act, for in consequence of being out all night he was put under arrest by Bombardier Semple and confined for two days, and it was Semple's pet child that the prisoner killed. Yet the judge, Baron Martin, dismissed this idea as quite unproved, and, more remarkable still, he felt so forcibly the evidence of Insanity that he said, in concluding his address to the jury, "When such impulses come upon men, according to the medical evidence, they were unable to resist them. It would be safe in such a case to acquit the accused on the ground of Insanity;" and the jury

* We have mislaid our authority for this case.

brought in a verdict accordingly of "Guilty of murder in an unsound state of mind," which, to meet legal technicalities, was altered to "Not Guilty of murder, on the ground that at the time he committed the act he was in an unsound state of mind."

This was not a case of simple irresistible impulse, belonging to the class of Transitory Mania, for the prisoner had been in a desponding state of mind for a considerable time, and had at one period been treated in hospital for a disease at first regarded as *delirium tremens*, but subsequently this diagnosis was set aside. What his disorder really was at that time does not appear to have been ascertained, but it may have been acute Mania. His conduct was stated to have been good, having been twenty years in the service, and his marks indicating about eighteen years' good service. A fellow-soldier proved that after dinner Jordan read a novel for half an hour, and then went to the box containing the razor, took it out, put on his tunic, and went out on to the battery, from which he could see right round the Fort. A few moments after came the alarm—the children's cries—the father and mother running out, and their acclamations of horror. The witness stated that the prisoner had always seemed quite right, and that he was a very sensible man. In this case it must be noticed that the prisoner *ran away*. The ferryman to whom he went to be ferried over the river Arun said he trembled very much. He knew the prisoner well, and he always seemed to be like other persons. When apprehended he said, "It's of no use to deny it," and that he had no animosity against the bombardier or his family, and that it must have been the devil. Before the magistrates he said, "I have had a great deal preying on my mind; I hardly knew what I was doing. Two years ago my wife went away, and I have had a great deal on my mind ever since. The bombardier, his wife or family, never did me any harm that I am aware of. It was the Fort that preyed on my mind; there was not sufficient company nor enough work. If it had been a livelier place and with more company, it would have worn off." *

The really remarkable feature of this case is that the judge disregarded the legal tests of responsibility and was guided by medical science, for there have been many examples of uncontrollable homicidal impulse more striking than this, in which, however, the judge strongly contended for the responsibility of the prisoner and discarded the plea of Insanity.

We cannot better illustrate the second (the delusional) division of the second class of cases of Homicidal Insanity than by a highly interesting case of Homicidal Mania in the Morningside Asylum, reported by Dr Yellowlees in the 'Edinburgh Medical Journal,' 1862. Some, however, would demur to the assumption that his suspicions of persecution amounted to actual delusions.

Smith, a joiner, became a printer and an author. For seven years he was a

* A full report of this case will be found in the 'Journal of Mental Science,' Oct., 1872. From an inquiry made of Dr Orange, the Superintendent of the Broadmoor Asylum, the writer finds that Jordan, who has since been an inmate of that institution, remains insane. Dr Orange writes (March, 1873), "His mind is still in an unstable condition, and I should not be surprised at the access of a maniacal paroxysm at any time." Subsequently (1877) the writer conversed with him at Broadmoor. He deplored the act he had committed. There was no delusion detected. No Epilepsy.

laborious and successful teacher, and officiated as precentor in Greyfriars Church. His first indications of insanity bore the character of touchiness or needless sensitiveness, which rapidly intensified into a monomania of suspicion or belief in his being the subject of persecution. He summoned before the court a person who called him "Whisker Willie," but the summons was dismissed, which induced Smith to assail the magistrate soon after in church for his unjust judgment. For this he was confined in prison, but, his insanity being recognised, he was sent to an asylum, where he secreted a sharp dagger with the intention of revenging himself. After a short residence in another asylum he was discharged well, and opened a shop as a publisher in Edinburgh in 1831. He issued numerous periodicals, but he soon became as much annoyed as ever with being called nicknames in the street. "His former ideas as to malevolence and persecution returned in full force; indeed, they seem never to have been entirely absent, but only in abeyance for a time, and he was constantly summoning persons to the police court for trivial injuries or imaginary wrongs." In 1826 he removed to another street and worked as a joiner. In consequence of his continued annoyance and his failure to obtain justice, he entertained the idea of personally exacting the vengeance denied him by law, and he collected swords, firearms, &c. He said to some one that "if he could just get bloodshed he would be satisfied, but that he must kill somebody." He fortified his house, alleging that he feared his enemies, and especially the police. In one of his publications he says that if the attempt is made to apprehend him, "before they make me prisoner, I will make my entry swim with blood." It was now judged necessary to secure him, and, this being accomplished with considerable difficulty, he was committed to prison as a dangerous lunatic in 1840, and subsequently to a workhouse, where he murderously assaulted the medical attendant, and he was thrust into a cell in an outbuilding, where his food was handed to him through the partially opened door.

He was now removed to the Morningside Asylum. In order to secure him, the roof of the cell had to be removed and the arms of the lunatic entangled with ropes before he could be secured.

"He was then put in irons and brought to the asylum (1841), but the man who brought him was so terrified at his prisoner and at the thought of his vengeance, that I am told he secured his own safety as soon as Smith was within the house by making off as fast as he could, with the key of the wrist-locks in his pocket!" There he was under the care of Dr Mackinnon and Dr Skae for twenty years, and was constantly endeavouring to wreak his vengeance upon the medical officers or the attendants, his attempts displaying much premeditation and cunning design. He one day stabbed Dr Mackinnon and his assistant with a pointed iron rod, but happily the wounds did not prove dangerous. "He often afterwards said, that many a time when Dr Mackinnon was conducting morning prayers and he was sitting near him as precentor, he could scarcely keep from rising and braining him with the chair he was sitting on. He always gloried in this murderous attack, and only lamented that he had not been more successful."

In reference to subsequent attempts, Dr Yellowlees observes, "The man's whole life was a study how to murder, and he was constantly gloating over the thought and a cruel and bloody revenge." Herein consists the present interest of the case.

For months he fabricated a weapon consisting of cuttings of lead kneaded into a heavy ball and attached loosely to the end of a stick, so as to form a life-preserver; with this, when the attendant put his head into the doorway, Smith, who lay in wait, bestowed a fearful blow. He now spent a good deal of time in writing an account of some new inventions, including the discovery of perpetual motion and other extravagant schemes. "*They constitute the first very obvious manifestation of Intellectual Insanity*, supervening on the moral perversions he had laboured under so long."

It must, however, be admitted, that Smith's early notions about being persecuted, although to some extent warranted by being actually teazed, amounted to delusions.

In 1846 he was for the first time personally restrained by a belt fastened round the waist, to which wristlets were loosely attached, a course which was pursued in consequence of his threat to commit murder on a certain day. In 1849 restraint was discontinued except when out walking, but his mental state was the same, and it is recorded in the note-book in 1852 that, "*if possible*, he is more than ever full of murderous threats."

A little later it is stated that—

"He used to entice mice into his room by leaving some of his food near a hole in the corner; he prevented their escape by closing the hole, killed them by tearing them into quarters with his fingers, and had the pieces arranged in a row in the morning to show his attendants how he would treat his enemies if he could." Subsequently he made another desperate attempt to murder an attendant, with the same careful preparation as on former occasions, and Dr Yellowlees does not appear to use too forcible language for the subject of it when he says, "It is scarcely possible to find language strong enough to describe the bloodthirsty passion which possessed the man, the devilish ingenuity, deliberateness, and determination with which all his attacks were made, or the fiendish delight with which he gloried in relating them, and revelled in the thought of a merciless and bloody success."

In 1855 his physical health gave way. Restraint was finally discontinued. Homicidal vows and threatenings continued to mark his mental state. "Years passed away thus; and they may be described in a single sentence:—Gradual mental deterioration with persistent and unquenchable desire for revenge and blood."

The patient is thus described by Dr Yellowlees when he first saw him in 1858:

"He was always to be found sitting up in bed with his ink-bottle beside him and his manuscripts on his knee. He was now a bent old man, with coarse wiry brown hair, fast turning to grey. He had greyish whiskers, and long, grey, shaggy eyebrows overhanging deep yet little fiery eyes that gleamed with cunning and cruelty. He had a very decided nose and a good brow, while his mouth and chin told you he had once been a man who could both dare and do. His manner was rude and defiant, as if his visitor had done him some personal wrong. . . . His answers were short and blunt. He at once gave you the impression that he had found a savage satisfaction in turning his hand and hatred against every one, seeing that every one had turned his hand against him. . . . Ere you left he was almost certain to tell you, if he thought you worth speaking civilly to at all, that he was going to remain in the asylum no longer; that he had already shown what he could do, and was determined ere the week was over to murder the doctor or some of the attendants."

He had a slight apoplectic attack at the end of 1858, but his mental condition was not altered. His health failed much in 1860, and he laboured under bronchitis and asthma. In the following winter he was worse, but "throughout it all his mental condition remained unchanged, and he might have been seen gasping his vows of murder or his loyal anthems during a paroxysm of dyspnœa. It was not in his nature to yield. But nature herself yielded at last, and he died about the age of seventy, Dec. 3rd, 1861." *

Under the influence of dreams, homicidal acts have, there can be no doubt, been committed. They may occur at the moment of awaking from sleep, before consciousness has fully returned, or in a state of actual somnambulism. The case of Bernard Schirnadzig, who killed his wife while in a state intermediate between sleeping and waking, in the belief that he saw a stranger before him, is full of interest. (See Marc, vol. i, p. 56.) The Germans call this condition *schlaftrunkenheit* (sleep-drunkenness).

In the newspaper reports of the police courts in January, 1859, occurs a very interesting and important case. A poor woman, Esther Griggs, was brought before the Marylebone Police Court, charged with throwing her child in the night out of the window into the street. There can be no doubt that it was due to the influence of a dream.

Sergeant Simmonds, 20 D, said—"At half past one o'clock this morning, while on duty in East Street, Manchester Square, I heard a female voice—'Oh my children! save my children!' I went to the house, No. 71, whence the cries proceeded, and the landlord opened the door. I went up stairs, accompanied by two other constables, and while making our way to the first front room I heard the smashing of glass. I knocked at the door, which I found was fastened, and said 'Open it; the police are here.' The prisoner, who was in her night-dress, kept on exclaiming, 'Save my children!' and at length, after stumbling over something, let me and my brother officers in. When we entered we found the room in total darkness, and it was only by the aid of our lanterns that we could distinguish anything in the room. On the bed there was a child five years old, and another three years of age by her side. Everything in the place was in great confusion. She kept on crying out 'Where's my baby? Have they caught it? I must have thrown it out of the window!' The baby must have been thrown out as I was going up stairs, for before getting into the room I heard something fall. I left a constable in charge of the prisoner, and I ascertained that the child, which had been thrown from the window, had been taken to

* The pathological appearances found after death do not belong to this chapter, but it may be mentioned that the cerebrum weighed only 35½ oz.; the cerebellum 5½ oz.; the arachnoid was opaque and slightly thickened; there were distinct softenings in the right corpus striatum, left thalamus, and floor of posterior cornu of right ventricle, all of old standing. All the arteries of the brain were more or less atheromatous. A cast of the head having been taken seventeen years before he died, it was found, when compared with one taken after death, that its capacity was less by at least twelve cubic inches.

the infirmary. *She told me that she had been dreaming that her little boy had said that the house was on fire, and that what she had done was with the view of preserving her children from being burnt to death.* I have no doubt that if I and the other constable had not gone to the room, all three of the children would have been flung out into the street. . . . From the excited state in which the prisoner was, I did not at the time take her into custody. I had understood that the surgeon had said it was a species of nightmare which the prisoner was labouring under when the act was committed. The window had not been thrown up. The child was thrust through a pane of glass, the fragments of which fell into the street."

The form taken by insanity in the puerperal state is not unfrequently that of Homicidal Mania. Here it is readily admitted on account of the accompanying physical disease, but the fact of there being a homicidal impulse is not the less patent. Dr Orange, in his 'Broadmoor Report,' 1877, records the case of a woman, æt. 31, who was tried at the Hants assizes in March, 1876, for the wilful murder of her newly born child, and was acquitted on the ground of Insanity. "She was improperly nursed and cared for after her confinement, *and being left by herself against her repeatedly expressed wish to the contrary, she was unable to overcome or control an impulse to take her child's life.* This she did by strangling it with a pocket-handkerchief when it was a few days old. She was a delicate affectionately-disposed woman, sensitive, nervous, and liable to depression."

To the foregoing description and illustrative cases, a brief summary of the chief characteristics of Homicidal Mania may be added. It manifests itself under very different mental conditions. Understood in its broadest sense, it may or may not be associated with decided lesion of the intellect. It may or may not be impulsive in character. It may or may not be preceded by premonitory symptoms so appreciable as to have been recognised. It may or may not be manifested from early life. However, careful investigation will reveal, in the majority of cases, a disturbance more or less of the intellectual as well as the moral faculties; leaving still a considerable number of cases in which there is a sudden, blind, motiveless, unreasoning impulse to kill. An inquiry into the patient's history will very generally detect a change in the character and hereditary predisposition to Insanity; the former, however, obviously cannot be looked for in cases where mental disorder can be traced back to infancy, or where intellectual or moral defects are congenital. Further, the homicidal act, when the result of disease, is usually accompanied *by no motive*, or a very trivial one, except so far as delu-

sion, or the gratification of a diseased propensity, can be regarded in this light. This rule must not, however, be made too absolute, inasmuch as among acknowledged criminal lunatics there are some in whom a motive can be traced. The subject of Homicidal Mania very frequently exhibits the utmost *sang froid*, and will even appear amused by his performance; on the other hand, in the purely impulsive form, the patient may bewail his deed in the strongest manner.

The homicidal act is often done *without premediation or design*, but we have already seen that there *may* be premeditation, and there may doubtless be a resort to ingenious deception. A woman, thirteen days after her confinement, cut off the head of her child with a razor, while labouring under Puerperal Mania. She obtained a razor on the pretext that she wanted to cut her nails. She was acquitted by the jury on the ground of Insanity. (Chelmsford Assizes, March, 1848.)

A convalescent patient once induced his attendant to lend him a razor for the purpose of shaving. He sat down before a glass, and having shaved one side of his face, called to him to see with what dexterity he had performed that part of the operation. The attendant came forward, but the patient started up and nearly severed the man's head from his body with the razor. This case is related by Perfect.

Frequently it is observable that the homicidal maniac sets no bounds to the destruction of his victims, a contrast to the ordinary criminal, who does not kill more than his object renders necessary.

In many cases it transpires that the sight of a weapon produced, in an abnormal state of the brain, a strong desire to use it.

Again, the homicidal act is often excited by some notorious murder, which either arouses a morbid desire to imitate or to gain notoriety and newspaper fame, or perhaps directly arouses a latent homicidal tendency.

The homicidal act, like the other actions of lunatics, is effected *without accomplices;* the members of the patient's own family are very frequently his victims;* after the commission of the

* In the 1877 Report of the Broadmoor Asylum we find that of 493 patients remaining on Dec. 31st, 1876, 223 (151 males, 72 females) had been charged with the commission of various forms of homicide. Of the former, 76 had caused the deaths of near relatives, 1 a Commissioner in Lunacy; 14 those of fellow-patients in other asylums or workhouses; 6 those of persons in charge of them; and 55 those

act, he *rarely escapes,* or takes precautions to prevent discovery, but delivers himself up to justice, and, by his own hand, he frequently terminates, at once, his life and his insane career.

Prognosis (see p. 135).—Although in many cases it is probable that the patient will not again attempt homicidal violence, it is in all cases (those from Puerperal Insanity excepted) sufficiently possible to justify a course of action with regard to sequestration which assumes that the disorder will return. Delasiauve gives the case of a man which shows how guarded, not to say unfavorable, the prognosis must always be.

In 1824 this patient, pursued by ideas of Persecution (like "Whisker Willie," reported by Dr Yellowlees), attacked a woman and would have killed her but for prompt succour. Confined in the prison of Evreux, he soon became sufficiently well to be allowed a certain amount of liberty. In 1830 he made his escape and remained very calm during several years. Fourteen years after the first attack, he committed another act of violence under nearly identical conditions, and was placed in an asylum for the rest of his life. (See 'Annales,' 1872.)

Legal Tests of Responsibility.

Although in practice the plea of Insanity in criminal cases is in a large number of instances not determined according to the law laid down by judges, but according to the higher law of humanity, it is desirable that the reader should know what unfortunately continues to be the main legal test of responsibility in criminal cases—the consciousness or knowledge of right and wrong; instead of being, as it should be, whether in consequence of congenital defect or acquired disease, the power of self control is absent altogether, or is so far wanting as to render the individual irresponsible. As has again and again been shown, the unconsciousness of right and wrong is one thing, and the powerlessness through cerebral defect or disease to do right is another thing. To confound them in an asylum would simply

of persons not included in these classes. Of the women patients, 60 had destroyed their own children, a striking contrast to the homicides among the men, 24 of whom killed their children. On the other hand 23 terminated the lives of their wives, and only 1 woman the life of her husband (along with her child). It may be added that of the above 493 inmates, 111 were charged with attempts to murder, maim, &c., 23 with burglary, 30 with larceny and petty thefts, 30 with arson, 20 with insubordination, 16 with felony, and 7 with assaults; 44 were certified insane while awaiting trial, 97 were found insane on arraignment, 250 were acquitted on the ground of insanity, 7 were reprieved on this ground, and 95 were certified to be insane while undergoing sentence of penal servitude.

have the effect of transferring a considerable number of the inmates thence to the treadmill or the gallows. The writer heard the late Mr Justice Willes lay down the law in a very lucid manner, and apply it to a case of murder, in which the jury, in direct opposition to his lordship's ruling, brought in a verdict of "Not Guilty on the ground of Insanity."

"The great question," he said, "which the jury would have to decide was whether the prisoner had satisfied them, by the evidence he had called, that at the time he committed the act he was in such a state of mind from Insanity as not to be responsible for what he did. With reference to that he was bound to tell the jury that every person is assumed, unless the contrary is proved, to be responsible for his acts. To acquit on the ground of Insanity, it must be clearly proved that at the time the offence was committed, the accused was labouring under such a defect of reason as not to know the nature and character of the act he was doing, and that he did not know he was doing what was wrong. That was the law by which they were bound —law made equally for the protection of society as for the protection of the prisoner, and according to that must they pronounce their verdict. The defence for the prisoner rested not so much upon the general derangement of his mind as upon a partial disease, consisting in an impulse alleged to have been uncontrollable at the time he committed the act. He would endeavour to illustrate this by one or two cases. First, as to the case where a man did not know the nature or quality of the act committed. Such a case would be the mistaking a man whom he might see for a wild beast or the Enemy of mankind, and striking a fearful blow under that delusion. In that case the man would be so deprived of his reason from the disease that he would not be responsible. But that was not the sort of Insanity suggested by the present case. As illustrating the second part of the proposition, he would name the case of a man meeting another on the road, and, under the delusion that this person intended to take his life, aiming a blow which resulted in death. In that case the accused would not be responsible. But if a man, instead of having a delusion that the party he was meeting intended to take his life, had the delusion that he had done him a serious injury by defaming his character, and he under that delusion caused the death of the party, he would be responsible for his acts. The delusion must be such that the man does not know the nature of the act he is doing, and that *he does not know he is doing wrong*. He had put this to them in the language in which the subject had been authoritatively treated by the Judges, and which was the law of the land." *

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* The answers given in 1843 by fifteen Judges to certain questions propounded to them (occasioned by the trial of McNaughton for the murder of Mr Drummond), and upon which the foregoing ruling rested, will be found in Hansard's 'Parliamentary Debates,' and Shelford's 'Law of Lunatics,' 1847, p. 586.

For cases in which the prisoner was acquitted on the ground of Insanity, although knowing the nature and quality of the act, and quite conscious of the difference between right and wrong, see Taylor's 'Medical Jurisprudence,' 4th edit., p. 768. For cases in which the plea of irresistible impulse was admitted, see p. 760, also p. 262–3 of this work. The reader is also referred to "The case of Henry Gabbites," by Dr Kitching ('Journal of Mental Science,' July, 1867); the same writer's "Lecture on Moral Insanity" ('British Medical Journal,' 1857); "The Legal Doctrine of Responsibility in relation to Insanity," by S. W. North, M.R.C.S. ('Transactions of the

Social Science Association,' 1864); "Insanity and Crime," by the Editors of the 'Journal of Mental Science,' 1864 (Townley's case); 'Étude Médico-légale sur la Folie,' par M. Tardieu, 1872; the works of Esquirol and Marc; Brierre de Boismont, 'De la Folie raisonnante, &c.,' 1867; "De la Monomanie de Persecution au point de vue de la Médecine légale" ('Ann. d'Hyg.,' pub. 1852); and Lasègue, "Memoire sur la Délire des Persecutions" ('Arch. Gén de Méd.,' tom. 27). A case of delusion of Persecution, ending in homicide and acquittal, in which the Judge's common sense and humanity got the better of his law, will be found in the 'Journal of Mental Science,' July, 1872. For cases proving the presence of the homicidal *impulse* without other symptoms of Insanity, see article by Dr Needham in the same number; and for the important cases of Edmunds and Watson, see April, 1872. For case of insane infanticide and the Judge's summing up, see July, 1871. In addition to Mr J. B. Thompson's article in the Journal, Jan., 1870, already cited (p. 253), we would especially refer to the succeeding one in the October number, which should be read along with Despine's work, "Psychologie Naturelle," 1868. "When," he says, "I read Despine's conclusion, that the moral sense is utterly and invariably absent in all criminals who commit violent crimes in cold blood, I confess it startled me as a most extravagant proposition," but he adds that the result of his investigation has much astonished him, and not a little shaken his incredulity. He states that of 430 murderers he has had in (medical) charge, only *three* discovered the slightest remorse for their crime, corroborating, he considers, the opinion that the moral sense is wanting in great criminals. Mr Thompson states that between 1865 and 1868, out of 500 admissions of female convicts into the General Prison for Scotland, 14, or 1 to every 36, became actually insane.

Hints in giving Evidence.

1. A medical man is obliged to make known, if asked in court, the statements or confessions made by a patient to him. (Peake on Evidence, p. 88. Starkie on Evidence, p. 105. Shelford, p. 81.)

2. If a medical witness believes a criminal to be insane and is called upon to give evidence to that effect, he must not be content with stating his opinion, but must be prepared to state the reasons upon which that conclusion is based. For aid in arriving at a judgment, the reader is referred to the chapter on the Diagnosis of Insanity.

3. The medical witness should confine himself to a simple statement of facts, and not allow himself to be drawn into a metaphysical discussion, or an attempt to define Insanity.

4. A medical witness sometimes wishes to fortify his view of the case by inducing the counsel to read from medical works, and the question arises whether this can be legally done. Justice Willes on the occasion already referred to, when the counsel for the prisoner pursued this course, and was interrupted by the counsel for the prosecution, said, "Counsel was at liberty to

read, as part of his speech, the opinions of a medical work, but the jury would not have to decide the case upon medical criticism, but upon the case and the facts." The learned counsel then read from Taylor's 'Medical Jurisprudence,' in order to show that certain cases recorded there were similar to the one before the court. It would appear, from R. *v.* Crouch, 1 Cox, C. C. 94, that the *opinions* of a medical writer cannot be stated in an address to the jury, but Judge Willes did not distinguish between these and *cases*.

5. In regard to any notes the medical witness may have taken of the prisoner's state, he may only make use of those in court which he has committed to paper at the time he examined the prisoner.

6. It must not be forgotten that the prisoner may be sane when examined by the physician, and yet may have been insane when he committed the deed, and *vice versâ*.

SECTION VIII.—Suicidal Mania or Insanity.

Synonyms.—*Melancholia Anglica; Autophonia* (med. authors); *Selbstmordtrieb* (Ger.); *Manie du Suicide, Monomanie suicide* (Fr.). "*Suicide*" is stated to have been introduced by the Abbé Desfontaines, in the last century, to signify both the act and the person who commits it.

Definition.—Properly, a perversion or reversal of the natural instinct of love of life, leading to its destruction.

We have had occasion, however, previously, to remark that the act of self-destruction may originate in different, and even opposite, conditions of the mind. There are melancholic as well as maniacal suicides. It may be said that in all cases the conservative principle, so deeply implanted in the inner recesses of our constitution, is overborne, if not itself primarily at fault, by the diseased action of other mental faculties or instincts. There is, in profound melancholy, a condition of misery, from which it is natural and reasonable, so to speak, to attempt to escape. Viewed apart from the moral bearings of the question, the patient may simply be regarded as choosing death as the least of two evils. He prefers severing the thread of life, to the endurance of its misery.

But of two patients, equally a prey to Melancholia, the one will attempt to terminate his existence, while the other, so far

from contemplating, will recoil with horror from, the act. By the latter, the natural desire to retain life may be possessed in much greater force than by the former; or there may survive, in one, religious convictions antagonistic to the execution of the act of suicide, which may either never have been present in the other, or may have been paralysed by disease. Other motives than those now referred to may prompt self-destruction. Thus, the act may be intimately associated with delusional forms of Insanity.

From the foregoing remarks it will be seen that Suicidal Mania admits of classification. First, there are cases in which the instinct of self-preservation is more especially diseased, being, as it were, reversed in its operation. There is here a blind, unreasoning, irresistible impulse to commit suicide—a true Suicidal Monomania.

Several well-marked examples have come under our observation, and we have recently been informed of a case in which the patient was attacked by a strong impulse to commit suicide, and, at his own urgent request, was confined in a lunatic asylum, where he has not manifested the slightest aberration of intellect. Two or three years previously, he was injured by lightning; shortly after which he was decidedly insane, but recovered. M. Debreyne has recorded the following:—The patient, who was opulent, stated that he was perfectly happy, and free from any cause of suffering, with the exception of one circumstance which tormented him. This was the desire, thought, or violent temptation, to cut his throat whenever he shaved himself. He felt as if he should derive from the commission of the act "*an indescribable pleasure.*" He was often obliged to throw the razor away. ('Du Suicide,' p. 82. See also 'Traité du Suicide,' 1857, par M. Bertrand, p. 265.)

This form of Suicidal Mania may present, as has been well observed by M. Bertrand (op. cit., p. 259), the spectacle of an individual perfectly reasonable, influenced by an enlightened religion, physically and morally happy, well aware of the criminality of suicide, and yet impelled to commit it, in spite of himself, by a force acting automatically and superior to his reason and his will.

Secondly, suicide may be the result,—not of an instinctive Monomania, but—of Melancholia. When treating of this form of mental disease, we referred to the frequency with which the ruling propensity is that of self-destruction. The degree in which the patient is depressed, is not the measure of his tendency to self-injury; at the same time, intense depression is, in a large number of instances, the immediate antecedent of the suicidal act. "I was in such a despondent state for two years that I could not trust myself with a razor," states a medical man, "but I found it went away as causelessly as it came."

The third division comprises those cases of suicide which spring from delusions, hallucinations, &c. A man believes that he can only gain admittance into heaven by self-immolation; another distinctly hears a voice commanding him to destroy himself; while a third sees a form which leads him on to the brink of a precipice or a river. M. de Boismont observed, of 171 suicidal patients:—Eighty-three in whom there were hallucinations of hearing; thirty of sight; six in whom there were illusions of hearing; thirteen of sight; thirty-three of smell and taste; six of touch.

And here it may be observed, in regard to suicide in general, that the question so often asked, *Is suicide the result of cerebro-mental disease?* must be answered both affirmatively and negatively. That the act may be committed in a perfectly healthy state of mind cannot, for a moment, be disputed. On the other hand, that the act is, in a large number of instances, the consequence of disease, is equally indisputable.

We will now briefly consider, *seriatim*, several points of interest and importance in relation to suicide.

1. *Modes of Death.*—Marvellously ingenious are the contrivances resorted to, in order to destroy prematurely that which the great mass of mankind cling to so tenaciously, and are equally ingenious in devising means to preserve and prolong. An almost universal passion is here extinguished, and its normal action reversed. The law, almost coextensive with the gift of life, that "no man hateth his own flesh," is here disregarded and broken.

The following is a statement of the modes of death adopted by 3598 persons, who committed suicide in France (but not necessarily insane) during one year. (Bertrand, op. cit., p. 160:—

Strangulation			1247
Drowning			1174
Fire-arms	Pistol	112	487
	Gun...	112	
	Not specified	263	
Asphyxia by charcoal			305
Precipitation			162
Cutting instruments			126
Poison			63
Other modes			34
			3598*

* In England the resort to poison is much more frequent than in France;

It is observable how the attempt at suicide is often defeated by the conservative powers of nature, and probably a diminished sensibility of the viscera.

We have known a person swallow a large stone and other large dangerous articles without a bad symptom—the stone, &c., passing through the alimentary canal unassisted by purgatives, which, in fact, are often prejudicial in such cases. A case has been recorded in which a pewter fork was swallowed by a patient who believed poison was mixed with his food, and lived for *five years* afterwards, when he hung himself. The fork (six inches long) was found in the stomach, the prongs, which appeared to have been designedly bent towards each other, directed to the cardiac orifice. ('Annales,' 1843, p. 483.)

It is singular how trivial a circumstance and insignificant a motive may divert a suicide from his purpose.

One day, at the Retreat, the matron happened to enter a room where she found a male patient on the point of cutting his throat with a razor. The patient was remarkable for his love of order and cleanliness. The matron, unwilling to engage in a personal struggle, with great tact and presence of mind, remonstrated with him on the ground *that he would make the room dirty*, and begged him to cut his throat —if cut his throat he would—*over a basin!* To this he at once assented, but when the basin was brought before him he no longer had the power to do it. Under such circumstances, much greater nerve and sustained determination were required than when he was alone and acting impulsively.

2. *Age.*—Many remarkable instances are on record, of children committing suicide. A writer in the 'Psychological Journal' (April, 1856) states, that—

Of twenty-six cases of suicide in children, which he has collected, "one was five years old, two were nine, two were ten, five were eleven, seven were twelve, seven were thirteen, and two were fourteen. Seventeen were boys, seven girls, two not mentioned. Amongst twenty-two of them, ten were drowned, ten hung themselves, and two broke the neck. All the girls were drowned. Five of the twenty-six failed in the attempt. Of the last, a woman, mentioned by Esquirol, who had thrown herself into the water at nine years of age, did the same at forty. M. Falret relates the history of a woman affected with Suicidal Mania from the age of twelve years; and of another who, from the age of ten, made frequent attempts at self-destruction, which succeeded at forty-five. The inadequacy of the motive is often very surprising. One boy of nine years killed himself, after having lost a bird; another of twelve because he was only the twelfth in his class at school. On the 7th of March, 1836, Henri Fournier, æt. 12, was sent by his mother for a watch, which he broke. He was sent to bed at six p.m., with a piece of dry bread. At ten o'clock his little sister was sent to see if he was asleep; she returned with the answer that he was. A six o'clock the next morning, a woman entered his chamber and found him hung. He had made a rope of two cravats, and hung himself to a nail in the wall, climbing up by a wardrobe. Every one bore testimony to his mildness and intelligence; he never complained of ill-treatment, except once observing that he got punished whilst his sister was always pardoned."

"asphyxia," from the common use of charcoal in the latter country, appears to take its place.

Of 3020 suicides in France, in one year, the majority were committed by persons between 40 and 50 years of age; 162 by minors; and 20 by octogenarians.

3. *Sex.*—Women more rarely commit suicide than men. Some statistics indicate the liability to be threefold greater among the latter. At Bethlem, according to Dr Webster, 29 per cent. of the female, and 32 per cent. of the male admissions, are suicidal. In our own experience, the number of women who have attempted or committed suicide is certainly equal to the men. Two of the most determined cases we have known were females—one terminating her life by suspension, the other by poison. In the latter instance, the patient baffled every precautionary measure adopted to prevent the fatal catastrophe. In a third case, suicide was attempted but unsuccessfully, and the lady was restored to health by the use of the prolonged warm bath. In a fourth, self-destruction was contemplated, but the same treatment was followed by recovery. M. Brierre de Boismont has reported twenty-seven females who committed suicide when they were pregnant.

4. *Marriage.*—M. de Boismont's figures tend to show that, both among men and women celibacy favours suicide in the community at large; but that, among cases of genuine Suicidal Insanity, the reverse occurs, there being a larger proportion married than unmarried. This he regards as one among other points of difference, between self-destruction committed by insane and sane persons.

5. *Hereditary Transmission.*—Many remarkable instances are on record of the suicidal tendency descending from one generation to another. (See cases at p. 63.) Hereditary taint would go far to distinguish insane from sane suicides.

6. *Seasons.*—In regard to the influence of the seasons, it is unquestionable that there is the largest number of suicides in spring and summer—a fact which might scarcely have been expected *à priori*, for the gloom of autumn would seem much more calculated to induce mental depression, and consequent self-destruction, than the joyousness of approaching summer. The suicidal epidemic recorded by Sydenham (1697) occurred in June. In 1806 a like epidemic raged at Rouen, during the months of June and July. From Dr Benedict's Report of the New York State Asylum for 1850 we learn that—

"There were admitted, during the month of July, the large number of forty-four patients from different portions of the state, nineteen of whom were suicidal.

Several of them had attempted suicide immediately previous to admission. From the 14th of July, *fourteen* attempts were made by eight different persons; and twelve others, in whom the propensity was strong, required constant observation. The suicidal epidemic prevailed from the 12th to the end of July; after which it gradually subsided, and left the minds of most of the patients."

Lastly, it may be stated as a fact, not without its practical use, that Brierre de Boismont found of 3518 cases of suicide committed in France, in which the exact period of the commission of the act was discovered, that 2092 were in the day; 658 in the night; 766 in the evening.

7. *Assigned Motives.*—We have already, when speaking of some cases of suicide in children, referred to their frequently trivial causes or motives.

In the 'Express' of June 20, 1861, we observe mention made of suicide in a boy aged eleven, of Kusel (Germany), who hung himself because his parents did not allow him to buy a squirrel which he had taken a fancy to possess! We may refer also to the case of a woman, aged twenty-three ('Express,' June 12, 1861), who attempted to commit suicide, and was with difficulty rescued from the Regent's Canal, the reason assigned by herself when brought before the police court being, "I wanted to see Blondin at the Crystal Palace, and my husband would not take me!"

Of the 3598 suicides tabulated in a former page, 977 were referred to Insanity as a *cause* (doubtless greatly underrated), 454 were the result of family troubles of various kinds, 203 of embarrassed circumstances, 313 of the desire to escape physical suffering, 208 of habitual drunkenness, 179 of want and the fear of want, 166 of the disgust of life, and 142 of bad conduct and debauchery.

The desire to be talked about—the love of notoriety—is a very frequent motive among suicides of the uneducated, though newspaper-reading, classes. It is also well known that many cases of suicide have been prompted by imitation. Epidemics of Suicidal Mania, and of self-mutilation short of suicide, are among the many strange examples of Epidemic Insanity. Suicide so often succeeds the homicidal act as to indicate a very close relationship between them, due allowance being made for the mere desire to escape punishment or disgrace. It has been calculated that in 60 per cent. of cases of murder, suicide is attempted.

It must not be forgotten that in the preceding observations we have been speaking of suicides in general, not those cases only in which mental disease was certainly present. From an examination of three recent Reports of the Royal Edinburgh

Asylum we observe that during three years 166 patients have been admitted with suicidal tendencies,* of whom 55 had attempted and 111 meditated the act before admission. The means adopted by the former were:—Cutting throat, with or without other means, 18; precipitation by itself, 7; hanging or strangulation, 7; poison, 6; starvation, 5; drowning, 4; burning, 2; suffocation, 1; dashing head against wall, 1; drinking scalding water, 1; wounds, 3.

Prognosis.—As a general rule, unfavorable.

SECTION IX.—Kleptomania (κλέπτω *I steal*).

Synonyms.—*Stehlsucht* (Ger.); *Monomanie kleptomaniaque* or *du Vol*; *Cleptomanie* (Fr.).

Definition.—Strictly speaking, an irresistible impulse to steal, the natural instinct to acquire having assumed a diseased activity; but thieving from mental disease may also be the result of delusions. Under circumstances of real temptation, a man may steal and his congenital or acquired weakness of mind may justly acquit him of legal responsibility, but the use of the term in these cases is not a scientific one. It should, however, be remembered that the fact of external motive does not remove the possibility of Insanity, although, doubtless, those cases which are motiveless, as when the rich steal a worthless article, are much more easily credited.

Marc observes, "This condition"—the impulsive form—"is, doubtless, very singular and inexplicable (?), as are so many other of the intellectual and physical phenomena of life; but it is not the less real on that account, as is proved by numerous examples."

Crichton Browne, after observing that "An instinctive impulse prompting to theft or Kleptomania is frequently felt in the young, and we say without hesitation that many of those young criminals who are yearly brought before our Courts of Justice and tried and punished for theft and like crimes, are

* In his Report for 1862, Dr. Robertson states that the annual proportion of suicides in Sussex is 8·9 per 100,000, while in England and Wales it is 6·7. In the 42 county asylums there were, taking the three previous years, 7 suicides in 1859; 11 in 1860; and 12 in 1861. We observe that in the following year, juries on Coroner's Inquests in England and Wales found 1324 verdicts of suicide; 961 being men, and 363 being women. The 'Times' gives the proportion of suicides to the population as 1 in 14,286.

the victims of this disease," and "our cases of Kleptomania in early life are only too numerous," gives the following interesting case :—

"A girl between nine and ten years of age, whose parents were in most affluent circumstances, and who had not the slightest inducement to the crimes which she committed, has repeatedly stolen silver and copper of various amounts, the property of her parents or of visitors in the house, and cast it away in the shrubbery, or concealed it so that it could not be discovered. She has stolen money and other articles from servants, concealing them likewise. Has stolen articles, and concealed them in servants' boxes. Has stolen biscuits and bread from a shop; and also a pair of red stockings belonging to her sister, which were afterwards found in the water closet. She has stolen articles of jewellery, and concealed them. When a theft has been committed, and while it was regarded as criminal, a whole night has been consumed in entreaties, prayers, and caresses, in order to induce confession of the act, and surrender of the articles abstracted, in vain. Punishment was likewise without effect. She has volunteered confession and penitence, with an assurance of tota inability to resist the inclination, and a declaration that she is "different" when she steals. This child also lies, scratches the backs of looking glasses, and disorders furniture. It is worthy of observation that this girl generally steals bright or brilliantly coloured objects, and that she never makes any use of what she steals. The physician who saw her, believed her condition to be connected with the premature approach of puberty." ('Journal of Mental Science,' 1860, p. 311.)

Of a patient at Bethlem Hospital Dr. Savage writes :— "Many cases of purposeless stealing become inmates of our gaols before the real cause of the malady is known. The stealing of trifles is common and causes much trouble. We have one patient now who first showed his insanity by constant attempts at getting things from the "Exchange and Mart," and now he purloins tobacco and cigars if he have the chance. His case is all but hopeless; he was formerly a well-educated high-minded youth." ('Considerations on the Cures in Insanity," p. 29-30).

Dr Hugh Miller, of Glasgow, has recorded a case of "Temporary Kleptomania" in the 'Lancet' (June 15, 1878), in which the patient, a young lady, experienced this symptom while he was attending her for necrosis of the lower jaw.

This affection is sometimes strikingly hereditary. The following is a highly interesting example, in which the propensity descended both to son and grandson. We give it on the authority of Dr Julius Steinau, the author of an excellent little book on hereditary diseases :—

"When I was a boy, there lived in my native town an old man, named P—, who was such an inveterate thief, that he went in the whole place by that name. People speaking of him, used no other appellation but that of '*the thief*,' and everybody knew then who was meant. Children and common people were accustomed to call him by that name, even in his presence, as if they knew no other name belonging to

him; and he bore it, to a certain degree, with a sort of good-naturedness. It was even customary for the tradesmen and dealers, who frequented the annual fairs in this place (which are there of a more mercantile character than in other countries), to enter into a formal treaty with him—that is, they gave him a trifling sum of money, for which he engaged not only not to touch their property himself, but even to guard it against other thieves. [Not in this case an *irresistible impulse.*]

"A son of this P—, named Charles, afterwards lived in B— during my residence there. He was respectably married, and carried on a profitable trade, which supported him handsomely. Still, he could not help committing many robberies, quite without any necessity, and merely from an irresistible inclination. He was several times arrested and punished. The consequence was, that he lost his credit and reputation, by which he was at last actually ruined. He died, while still a young man, in the House of Correction in Sp—, where he had been confined as a punishment for his last robbery.

"A son of this Charles, and grandson of the above-mentioned notorious P—, in my native town, lived in the same house where I resided. In his early youth, before he was able to distinguish between good and evil, the disposition to stealing, and the ingenuity of an expert thief, began already to develop themselves in him. *When about three years old*, he stole all kinds of eatables within his reach; although he always had plenty to eat, and only needed to ask for whatever he wished. He therefore, was unable to eat all he had taken; nevertheless, he took it, and distributed it among his playfellows. When playing with them, some of their playthings often disappeared in a moment, and he contrived to conceal them for days, and often for weeks, with a slyness and sagacity remarkable for his age. When about five years old, he began to steal copper coins; at the age of six years, when he began to know something of the value of money, he looked out for silver pieces, and, in his eighth year, he only contented himself with larger coins, and proved himself to be, on public promenades, an expert pickpocket. He was early apprenticed to learn a trade; but his master being constantly robbed by him, soon dismissed him. This was the case with several other tradesmen, till at last, in his fourteenth year, he was committed to the House of Correction. Whether that institution was fortunate enough to correct this ill-fated youth, the writer of this essay is unable to state."

In the last edition we gave an analysis of cases reported by Marc and others, as illustrative of Kleptomania, under two divisions; the first, in which disorder of the intellect was alleged not to be present (cases of Emotional Insanity),—the second, in which such disorder was manifest. We shall now simply give the following cases as typical of these classes:—

A lady was subject to periodical attacks of Insanity, generally in the spring. They were followed, in one instance, by an irresistible desire to steal, for gratifying which she was brought to trial, but was acquitted on the plea of Insanity. This plea was urged with great ability by Esquirol and Marc. When asked what passed through her mind when she committed these thefts, she replied "I cannot tell; but I have such a mad longing to possess myself of everything I see, that, were I at church, I should steal from the altar, without being able to resist it." (Marc, vol. i, pp, 275, 303.)

In this and in other cases, it should be borne in mind that the character of the mental disorder was testified to by the highest

authorities, and that their evidence was considered conclusive by a court of law—proverbially suspicious of medical testimony. This remark implies to many of the cases adduced in this work as illustrations of Emotional Insanity.

For cases illustrative of the influence of utero-gestation in exciting this Monomania, see Marc, vol. ii, pp. 262, 264, &c.; and Dr Tilt's 'Diseases of Women.'

Under the second division we may refer to those cases of General Paralysis, not uncommon, in which the patient steals in consequence of the delusion that everything belongs to him. We recently saw in the Hull Borough Asylum, under Mr. Casson's care, a man labouring under General Paralysis, who in a somewhat early stage (the memory, however, failing) took various articles out of shops and from stalls, and had (his wife said) a particular propensity for stealing all kinds of *brazen* articles. How ridiculous such a statement, which, we have no doubt, was quite correct, could be made to appear by a prosecuting counsel! In another case of General Paralysis in the same asylum the patient took forty sheep out of a field and drove them up the passage where he lived. In the 'Journal of Mental Science' January, 1873, Dr Burman ("On Larceny as committed by Patients in the earlier stages of General Paralysis") records six interesting cases. One committed a robbery in a silversmith's shop and was sentenced to three months' imprisonment; a second, in comfortable circumstances, stole coals in open daylight and was sentenced to six months; a third, a sober man, stole oil and was sent to gaol; a fourth stole wineglasses; a fifth stole some cloth, both being sent to the House of Correction; the sixth was imprisoned for stealing nuts. In all these cases, General Paralysis was soon developed.

Then there are cases of considerable mental weakness which the law is with difficulty brought to recognise, and in which there is a propensity to steal.

Case of Renaud, aged forty-four. His ideas appear to have been very limited, indicating a degree of imbecility. The medical commission, Denis and Marc, arrived at the conclusion that the mental condition of this individual did not appear to allow of the supposition that he had that degree of discernment and moral liberty which forms a necessary condition of criminality. (Marc, vol. i, p. 170.)

A description of the disease would be incomplete without a brief reference, in conclusion, to the accompaniments which may assist us in recognising it. Hereditary predisposition to insanity; evidence of mental derangement prior to the develop-

ment of the propensity; the earliest symptoms of General Paralysis; the occurrence of any physical disorder, as brain fever, the suppression of any discharge, or an injury to the head; puberty; pregnancy; the absence (in most cases) of any inducement to steal; the general conduct of the individual, during and after the act, and especially (although cunning and concealment are consistent with this form of mental disorder) voluntary restoration of stolen goods—all these are circumstances of great importance in attempting to decide upon the existence of Kleptomania.*

SECTION X.—Erotomania (ἔρως, *love*).

Synonyms.—*Love Melancholy* (Eng.); *Monomanie érotique, Hystéromanie, Nymphomanie,* (Fr.); *Liebeswuth* and *Erotomanie* (Ger.); *Satyriasis, Furor uterinus, Aidoiomania,* &c.

Definition.—According to Esquirol, Marc, and others, this term should be restricted to those cases which are characterised by excessive love for an object, whether real or imaginary. "In this disorder," the former observes, "the imagination alone is affected; it is an error of the understanding; it is a mental affection in which amatory delusions rule, just as religious delusions rule in Theomania or in Religious Melancholy. It differs essentially from Nymphomania (*νύμφη, nymphæ*) and Satyriasis (*σάθη, penis*). In the latter, the evil originates in the organs of reproduction, the irritation of which reacts upon the brain. In Erotomania, the sentiment which characterises it is in the head. The nymphomaniac, as well as the victim of Satyriasis, are the subjects of a physical disorder. The erotomaniac is, on the contrary, the sport of the imagination. Erotomania is to Nymphomania and Satyriasis, what the ardent affections of the heart, when chaste and honorable, are in comparison with frightful libertinism; while proposals the most obscene, and actions the most shameful and humiliating, betray both Nymphomania and Satyriasis." "The subjects of Erotomania," the same writer observes, "never pass the limits of propriety; they remain chaste." And Marc also observes, that "in Erotomania, the disease has the cerebral functions for its *point de départ*; while

* See article by Dr Bucknill in the 'Journal of Mental Science,' July, 1863; also, for cases reported by M. Renaudin, the 'Annales,' April, 1855.

in Nymphomania and Satyriasis, the source of the disease lies in the reproductive organs." (Vol. ii, p. 183.)

It is by no means easy, however, to draw these distinctions in practice. The two may exist together. Patients may completely exceed the limits of propriety, without our having any evidence that the primary disease is in the generative organs. It is difficult, in not a few instances, to determine whether the origin of the malady is there or in the head. In this as in other mental affections, the irritation may proceed from the centre or the periphery; the disorder may be idiopathic or sympathetic. Nor do Esquirol's examples of Erotomania sufficiently sustain the definition with which he sets out. It may, perhaps, therefore be better to employ the term in a more comprehensive sense, so far as to consider Esquirol's description of Erotomania as but one of its forms—the sentimental—or Erotomania *proper*; and Nymphomania or Uteromania (having reference to females), and Satyriasis (having reference to males), as additional forms. These latter are comprised under the term Aidoiomania (*αἰδοῖα, pudenda,* and *μανια*) introduced by Marc; and the *fureur genitale* of Buisson.

Symptoms.—In Erotomania there is sometimes great depression of the vital forces; and in these cases, if the remedies employed do not soon take effect, the patient becomes more and more depressed in mind and body, emaciated, and rapidly sinks; an example of the erotic fever (*fièvre érotique*) of Lorry.

In some cases there is, doubtless, an erotic condition which interferes but very slightly with the accustomed exercise of the intellectual faculties, but which entirely overmasters the patient's controlling power (Emotional Insanity). To these Prichard has referred, in connexion with Moral Insanity, and gives the following in illustration:

"A young man, previously of most respectable character, became subject to severe epileptic fits,* which were the prelude to attacks of violent Mania, lasting, as it generally happens in this form of the disease, but a few days, and recurring at uncertain intervals. These complaints, after a time, disappeared in a great measure; but they left the individual excessively irritable in temper, irascible, and impetuous, liable to sudden bursts of anger and rage, during which he became dangerous to persons who were near to him. Of symptoms of this description, a state approximating to the Satyriasis of medical writers is no unusual accompaniment; but, in the present instance, the diseased propensities of the individual were displayed in such a manner as to render confinement in a lunatic asylum the only preservative against criminal accusations." ('Treatise on Insanity,' p. 25.)

* Dr. Prichard did not consider that the presence of Epilepsy removed cases in which there is neither delusion nor imbecility, out of the category of Moral Insanity.

Examples of the various forms of Erotomania will be found in Esquirol ('Malad. Ment.,' vol. ii, pp, 32, 49).

A remarkable example of Erotic Monomania, in which there was no marked disorder of the intellect, is reported by Ferrus, Esquirol, and Marc. ('Annales d'Hygiène publique et de Médecine légale,' tom. iii, p. 198; Marc, vol. i, p. 30.)

An interesting case is reported by Marc (vol. i, pp. 148-9). Erotic conduct appeared to be the result of the delusion that a lady was not married to her husband. The patient had, in consequence, to be placed under restraint.

The same writer (vol. i, p. 209) cites from Gall the case of an idiot, seven years of age, who afforded a remarkable example of Satyriasis.

Numerous examples of Erotomania (proper) are given by the same writer in his great work on the Brain, vol. ii, pp. 182, 193; and of Aidoiomania, pp. 193, 291. Of the latter see an example in the 'Journal of Mental Science,' Oct., 1872.

See also 'Dict. des Sc. Méd.,' Art. "Nymphomanie," by Villermay; and Art "Satyriasis," by M. Rony; and M. Bayard's 'Treatise on Uteromania,' Paris 1836.

Erotomania, in its extended signification, not unfrequently follows upon Religious Melancholy; a case lately in the Retreat was an illustration of it. Schr. v. der Kolk says he believes we should rarely err if in a case of Religious Melancholy we assumed the sexual apparatus to be implicated, either from self-abuse or other causes. It is not uncommon in the old, and, it may be, in persons who have been patterns of chastity during life. We have seen it among the first indications of senile Dementia. It is more frequent among women than men; and, as Guislain observes, among the unmarried and widows than the married. It may often, in females, be traced to disordered menstruation; also, as in a patient now in the Retreat, to ovarian disease. Nymphomania and Satyriasis may be excited also by irritiating substances in the bowels, by ascarides, by hæmorrhoids, by cutaneous eruptions, pruritus, &c. It may attack any age; but the sentimental form—*Erotomania proper*—more especially affects the young, and those of an ardent, susceptible temperament. Idiots are frequently examples of the physical form (Aidoiomania). Erotomania is often complicated with Hysteria, and sometimes with Hypochondriasis.

SECTION XI.—Pyromania (*πῦρ, fire*).

Synonyms.—*Monomanie incendiaire, Pyromanie* (Fr.); *Feuerlust Brandstiftungs-monomanie* or *lust,* or *trieb* (Ger.).

Definition.—A morbid impulse to burn.

In a systematic work it is necessary to make some allusion to the condition of mind to which this term has been attached

and to which reference is so frequently made in psychological literature. At the same time, we think that it would have been better, had psychologists included Pyromania under destructive Mania in general, instead of constituting it a distinct form of mental disorder. As such we do not recognise it.

We are well acquainted with the particulars of a case in which the act of burning was clearly connected with an impulse to destroy everything that came within reach. Mr—— had had a paralytic attack about eight years previously, but had very much recovered from its effects, with the exception of uncomfortable sensations in the head, accompanied by slight confusion of mind. He was married, and was very kind both to his wife and children. Soon after retiring to bed, not having been worse than usual the previous day, and equally affectionate to his family (kissing his children before they went to bed, &c.), he shot his wife, attempted to shoot a servant, *set fire to his house in at least six different places*, and then committed suicide! The house was burnt to the ground.

An examination of the recorded cases of Pyromania will result in the rejection of a large number if not all of them from the category of instinctive or impulsive forms of Insanity, pure and simple.* In a considerable number, there appears to have been a feeling of revenge, which, associated with a low moral nature, sometimes independent of, but, in other cases, the result of disease, led to the commission of incendiary acts. Of twenty cases recorded by Klein and Platner, sixteen appeared to originate in a motive, although, in many cases, of a trivial character. It is to be observed, however, that, even in such cases, as well as in those alleged to be of an impulsive character, the age of the parties was under or about the period of puberty, and that a larger number of girls than boys have been the subject of this disorder.

In short, as Marc concludes, incendiary acts are chiefly manifested in young persons, in consequence of the abnormal development of the sexual functions, corresponding with the period of life between twelve and twenty; if then there exist any general symptoms indicative of irregular development, or of critical changes in the evolution of the reproductive system, attention should be drawn to the question whether an incendiary

* By far the best monograph on this affection is Jessen's 'Die Brandstiftungen in Affecten u. Geistesstörungen' (Kiel, 1860). In this work (extending to 335 pages) he gives a large number of cases of Pyromania, and he is careful to point out the distinction between those cases in which there was a more or less decided motive and those in which the act arose out of a purely diseased mental condition. He arranges his cases according as they are associated with Imbecility, Melancholia, Mania, Monomania, Dipsomania, and Epilepsy. While fully admitting its existence as a *reasoning* Monomania, he demurs to its occurrence in an *instinctive* form.

act has been the result of disease. Hence, attention should be also paid to such signs as a too rapid growth, or one that is retarded, as well as an arrest in the development of the sexual organs; also, unusual lassitude, glandular swellings, cutaneous eruptions, &c.

Further, it is not only important to ascertain whether signs were present, before the incendiary act, of approaching menstruation, its derangement or suppression; but there is an obvious necessity of ascertaining whether there are any symptoms of disorder of the circulation, as an irregular pulse, determination of blood to the head, vertigo, headache, &c.; or the nervous system, as involuntary muscular movements, trembling, spasms, and convulsions of any kind, epilepsy and catalepsy. In connexion with all these symptoms, there will generally be found some change in the character, such as a tendency to sadness, irascibility, and other symptoms of disordered cerebral functions. In many cases on record, there existed, from infancy, a condition of mind bordering on imbecility. We have recently seen a boy of feeble mental power in the Broadmoor Asylum who had been guilty of arson. On Jan. 1st, 1876, thirty-three patients were there who had been found guilty of the same crime. Dr Morel, in his recent treatise (1860), lays great stress upon Pyromania, as an instinctive form of Insanity, in some children with strong hereditary predisposition.

In analysing some of the most remarkable cases illustrative of the disorder which are on record, we have classified them under the following heads :—I. Cases in which there was no marked disorder of the intellect. (Emotional Insanity) II. Those in which such disorder existed. Under the former head, it is convenient to distinguish those (*a*) in which there was no premeditation or design, from those (*b*) in which they were present. Again, under the second head, it may aid the investigation of the subject, to separate those cases (*a*) in which there was a deficiency of the intellect—imbecility, idiocy, &c.; from those (*b*) in which there were delusions, hallucinations, &c.; these generally constituting the motive.

I. Without marked disorder of the intellect.

(*a*) Without premeditation or design.

The following is a case in point:

A boy, sixteen years of age, set fire to the house of the father of a person to whom he was much attached. He struggled against the impulse for a year. (Marc, vol. ii, p. 291.)

(*b*) With premeditation and design.

Case of Jane Wells, aged thirteen, servant in Mr Stone's family, near London. Dr Southwood Smith certified, that she had been suffering from brain fever some time before; that her convalescence had been protracted, and that her mind might have been injured. The chief motive in this case appears to have been the pleasure of seeing a blaze. (Marc, vol. ii, p. 369.)

II. With disorder of the intellect.

(*a*) Depressed condition of the intellect, imbecility, &c.

Case of a boy, K—, aged eleven years and six months. The conclusion arrived at by the expert who examined him was, that, owing to a defective education, he was still infantile, and that the first incendiary act of which he was guilty, was a childish trick—the second, the result of secret ill-will; but that, independently of this, there was disease—congenital or acquired—which exercised a certain influence upon his conduct. (Dr Meyer, of Pinneberg, 'Annales de Henké;' Marc, vol. ii p. 330.)

Case of slight imbecility, and of Pyromania, in a lad aged seventeen. No motive appeared beyond the love of mischief. It is, however, a highly interesting and instructive case. (Marc, vol. i, p. 406.)

(*b*) Exalted condition of the intellect, hallucinations, &c.

Case of a girl aged seventeen years, in which an inward voice was heard commanding her to burn. This was the only sign of aberration of the intellect. ('Questiones Medicinæ Forensis,' 1821; Ray, 'Medical Jurisprudence of Insanity,' p. 193.)

Case of a girl aged fifteen, named Graborkwa. Here the disorder of the intellect was an hallucination that an apparition was constantly before her, impelling her to acts of incendiarism. (Klein, 'Annalen,' xii, p. 136; Ray, loc. cit.)

Case of a young man, M. B—, a patient in an asylum in Paris, whose propensity it was to set fire to everything. It is to be inferred that it was associated with ordinary Mania. (Marc, vol. ii, p. 309.)

The Austrian Government in 1851 repealed the law made about a quarter of a century before, that all youthful incendiaries should be handed over to the doctors for examination. The doctors themselves petitioned for the change and said the doctrine that it arose from irresistible impulse and a peculiar organisation was exploded ('London Med. Gaz.,' Dec. 19, 1851).

SECTION XII.—Dipsomania (*δίψος, thirst*).

Synonyms.—*Polydipsia ebriosa insana, Mania crapulosa, Oinomania; Dipsomanie, Monomanie d'ivresse, Manie ebrieuse* and *crapuleuse* (Fr.) *Trunksucht* (Ger); *Sapoi* (Russ.).

Definition.—An uncontrollable and intermittent impulse to take alcoholic stimulants, or any other agent (*e. g.* opium and

hashish) which causes intoxication—in short, a *Methomania* (*μέθη, ebrietas*).

Dr J. C. Browne* defines it as "an irresistible craving for alcoholic stimulants, occurring very frequently periodically, paroxysmally, and with a constant liability to periodical exacerbations, when the craving becomes altogether uncontrollable." (Ans. 450.)

Again, "Habitual drunkenness is a vice, and dipsomania is a disease. The essential distinction to me appears to be that in habitual drunkenness the indulgence of the propensity is voluntary and may be foregone, and in dipsomania it is not so . . . . The dipsomaniac is driven into the debauch by an impulse. The drunkard seeks the intoxicating effects. . . . I have known several dipsomaniacs who, in the intervals between their attacks would not take stimulants when placed before them, but a drunkard, on the other hand, will take a stimulant when he can get it; that is not so with a dipsomaniac." (Ans. 458.)

This is a form of mental disorder which, in an especial manner, requires to be discriminated from what may be termed a merely physiological condition, in which the human animal chooses to indulge in alcoholic beverages to excess. On the one hand, the admission of this disease into the department of mental pathology must not make us conclude that there is no such thing as intemperance without disease—the absurd and mischievous doctrine that "intemperance is a disease"—and, on the other, the fact that the abuse of alcoholic drinks has, oftentimes, no disease to plead in its excuse, must not lead us to the opposite extreme of denying that a truly diseased cerebral condition may exist, the result of which is inebriety.

Symptoms.—How, then, shall we distinguish the two conditions, when the result—intemperance—is the same in both? First (as in all cases of alleged Insanity), by observing whether there are any symptoms present which can be referred to primary disorder of the nervous system, that is to say, other symptoms than those which, as in ordinary drunkenness, can readily be accounted for by the prolonged indulgence in alcohol. The family psychological history, again, is of great importance. Cases in which an insane parent has a drunken son point strongly, of course,

* In evidence before the Select Committee of the House of Commons (1872) on "Habitual Drunkards." From the same source are taken the citations from Drs Mitchell and Anstie.

to disease. The development of the appetite for stimulants, in early life, is another indication in the same direction. But, to come more closely to the circumstances attending the habit itself, the prominent feature of this propensity is its *irresistibility*; the thirst for drink is the tyrant which overbears all the higher emotions, and blindly leads the oinomaniac to a course, against which his reason and his conscience may alike rebel.

"Its characteristic," says Dr Arthur Mitchell, "is an ungovernable and remitting craving for drink, without any reference to externals; an ungovernable appetite for drink with no reference to social intercourse, or to joviality. . . . It may appear without previous habits of drinking as the result of cerebral injury, of fever, hæmorrhage, of mental shocks, of the commotion in the system which attends the establishment of puberty, or of the arrival of the climacteric period." (Ans. 1177.)

As Dr Skae has so clearly pointed out in his Report for 1872, the dipsomaniac's paroxysms are preceded by a general perturbation of the system. He perspires; the pulse is soft, but quiet. He is sleepless, uneasy, prostrate, and so craves a stimulant. Between his attacks he differs from the mere sot in often positively disliking beer or spirits, and *may* be a useful member of society. It is true, however, that the drunkard may become a dipsomaniac; and a dipsomaniac so injured by drink, that he sinks at last into a condition nearly resembling in appearance that of the ordinary drunkard, and then the broken-down aspect, the feeble tremulous limbs, the pale or leaden-coloured visage, watery and lustreless eye,* the deadened affections of the heart, the loss of truthfulness, the weakened intelligence, the dangerous irritability, are common to both. The difficulty, in many cases, is to determine whether the uncontrollable condition present is *acquired* or *original*. Moreover, in the former case, although

* See the description given by Dr Peddie, of Edinburgh, in his pamphlet, 'The Necessity for some Legalised Arrangements for the Treatment of Dipsomania, or the Drinking Insanity.' See also Skae, in 'Edinburgh Medical Journal,' 1858; Christison, 'On some of the Medico-legal Relations of Intemperance,' 1861; A. Foville, 'Archiv. gén de Méd.,' Oct., 1867; Dr Mitchell, 'Journal of Mental Science,' Oct., 1872; On "Inebriate Asylums," see *idem*, July, 1867. The writings of Salvatori, of Moscow' should not be forgotton, "Commentatio Pathologica de Ebriositate Continua, Remittente, et Intermittente," in 'Comment. Soc. Phys.-Med. apud Univ. Mosquens Instit.' (1817), vol. ii, part i, pp. 260, 290; and the work of Brühl-Cramer, 'Ueber die Trunksucht' (Berlin, 1819). See also an able article in the 'British and Foreign Medical Review,' Oct., 1858; Magnan, 'Etude sur l'Alcoolisme,' Paris, 1871. 'Drink in Relation to Insanity,' by Dr Bucknill, 'Journal of Mental Science,' July, 1876.

truly an Insanity from drink, it must not be confounded with Alcoholic Insanity or with *delirium tremens*. The loose sense in which these terms (and *mania à potu*, &c.) are constantly employed by writers and even in medical dictionaries, is very embarrassing to the student.

Dr Anstie, admitting the paroxysmal form of drink craving is rare, gives an instance of it "in a man who was in an exceedingly good position, and of exceedingly active business habits, and who was one of the cleverest business men that I ever knew; he always lived a sober and chaste life, except when the fit was upon him; he did not go far off to avoid scandal, but went to the nearest public house and consorted with loose women, and shut himself up in a back parlour and drank brandy with them for six weeks, close to the village where he was an important man. He was a manufacturer." (Ans. 573.)

With women the drink-craving when present, sometimes only occurs at the menstrual period. Of this we have known most striking instances. The craving for drink may be the first symptom of an attack of Insanity. Thus Dr Major has recorded "a pure case of recurrent mania which has been here (Wakefield) five times, in which one of the first symptoms of the onset of an attack, has invariably been a craving for drink which lasted during the attack, and quite left her when the attack of mania was over." ('Journal of Mental Science,' July, 1876). That disease of the brain can excite this craving as the first of other symptoms of Insanity, is a suggestive fact in the consideration of the allegation that what was here the first, may in some instances, be the only symptom in addition to hereditary predisposition to insanity or drink.

Dr C. Browne observes that he has known "dipsomania produced by injuries to the head in perfectly sober and sedate men. I have seen it produced by sunstroke and by other causes. I recollect a case of a gentleman, perfectly sober, who had dipsomania, which was attributed to taking a draught of water on a hot summer's day, which caused fainting, and was succeeded by an entire change of character." (Ans. 450.)

Dr. Hutcheson, who was among the first to draw especial attention to this disease, described it under three forms—the acute, the periodic, and the chronic.

"The *acute* is the rarest of the three. We have seen it occur from hæmorrhage in the puerperal state, in recovery from fevers, from excessive venereal indulgence, and in some forms of dyspepsia.

"The *periodic*, or paroxysmal form, is much more frequent than the acute. This is often observed in individuals who have suffered from injuries of the head; females during pregnancy, at the catamenial period, and afterwards; and in men whose brains are over-worked. Like the form about to be mentioned, it is frequently hereditary, being derived from a parent predisposed to Insanity, or addicted to intemperance. In such cases the probability of cure is very small. The individual thus afflicted abstains for weeks or months from all stimulants, and frequently loathes them for the same period. But by degrees he becomes uneasy, listless, and depressed, feels incapable of application, and restless, and at last begins to drink till he is intoxicated. He awakes from a restless sleep, seeks again a repetition of the intoxicating dose, and continues the same course for a week or two longer. Then, a stage of apathy and depression follows, during which he feels a loathing for stimulants, is the prey of remorse, and regrets bitterly his yielding to his malady. This is followed by fresh vigour, dilligent application to business, and a determined resolution never again to give way. But, alas! sooner or later the paroxysm recurs, and the same scene is re-enacted; till ultimately, unless the disease be checked, he falls a victim to the physical effect of intemperance, becomes maniacal or imbecile, or affected with the form of the disease next to be mentioned.

"Of all the forms of Oinomania the most common is the *chronic*. The causes of this are injuries of the head, diseases of the heart, hereditary predisposition, and intemperance. This is by far the most incurable form of the malady. The patient is incessantly under the most overwhelming desire for stimulants. He will disregard every impediment, sacrifice comfort and reputation, withstand the claims of affection, consign his family to misery and disgrace, and deny himself the common necessaries of life, to gratify his insane propensity. In the morning, morose and fretful, disgusted with himself and dissatisfied with all around him, weak and tremulous, incapable of any exertion either of mind or body,—his first feeling is a desire for stimulants, with every fresh dose of which he recovers a certain degree of vigour both of body and mind, till he feels comparatively comfortable. A few hours pass without the craving being so strong; but it soon returns, and the patient drinks till intoxication is produced. Then succeed the restless sleep, the suffering, the comparative tranquility, the excitement, and the state of insensibility; and, unless absolutely secluded from all means of gratifying the propensity, the patient continues the same course till he dies or becomes imbecile."

The grand characteristic, then, of the disease under which the oinomaniac is alleged to labour is, the irresistible impulse by which he is impelled to gratify his propensity; being, during the paroxysm, "regardless of his health, his life, and all that can make life dear to him," but the proof that it is really a disease, and not mere vice concealing itself under the cloak of disease, must be based on the symptoms already enumerated, including the proof that mental control is really lost, in the same sense, at least, as it is said to be in other cases of Insanity. Absolute loss of volition or entire freedom from vice is not claimed for every lunatic justly admitted into an asylum.

Prognosis.—Unfavorable.

The chronic form is very intractable. Hutcheson states that

he has only seen one case completely cured; and seclusion for two years was in this instance required. He most justly observes, that such unfortunate individuals are sane only when confined in an asylum.

Though not now on the subject of treatment, we may remark, that in a case under our care we have succeeded in inducing abstinence by substituting, for a considerable period, Chloric Æther and Nux Vomica for brandy, and at the same time prescribing general remedies, especially Bismuth and antacids, to correct the condition of the digestive organs, upon which the craving for intoxicating drinks in part depended. The result of this case, which for long proved intractable, is the more interesting from being hereditary. Morel, in his work 'Des Dégénérescences' (p. 118), says, "I have never known those patients cured whose alcoholic tendencies originated in hereditary predisposition transmitted by their parents. Their discharge from the asylum was immediately signalised by the repetition of the same acts."

It has been urged as a reason against the condition now described being truly insane, that when the patient is sober he does not really and heartily determine to withstand the temptation; and that if he did so, he could master the propensity. Of course, this is true of many drunkards. We are certain it is *not* true in many cases of genuine Dipsomania; although we admit that, occasionally, the power even to resolve may be partially paralysed.

Passing from the consideration of the several so-called Monomanias, or diseased manifestations of somewhat isolated propensities, we proceed to consider a more general affection, viz. Mania.

SECTION XIII.—Mania.

Synonyms.—Μανία (Gr.); *Mania* (Lat.); *Manie* (Fr.); *Pazzia* (Ital.); *Tobsucht, Wuth, Tollheit* (Ger.); *Raving Madness.*

This, perhaps the most interesting and best recognised form of mental disease, has been usually treated of by writers as essentially a disorder of the reasoning faculties. Dr Prichard classed it under Intellectual Insanity. We are disposed, however, to regard it as belonging primarily to the affective group, although eventually involving the intellect, and therefore constituting an affection of the whole mind.

Definition.—Mania is a term understood in various senses, and it doubtless includes many cases presenting very different symptoms; but in its primary sense, that of Raving Madness, it may be properly regarded as passion arising from disease, and more

prolonged in its operation. Even anger itself was characterised by Horace as a short madness—*ira furor brevis est*; and several writers, including Pinel, have endorsed the sentiment of the poet. "He who," observes this writer "has identified anger with fury or transient Mania, has expressed a view, the profound truth of which one feels disposed to admit, the more one observes and compares a large number of cases of Acute Mania. Such paroxysms are rather composed of irascible emotions than any derangement of the understanding, or any whimsical singularities of the judgment."

No one will deny that the man who is in a passion, has his feelings rather than his reason disturbed in the first instance; yet, when thus aroused, how confused is his language, how distorted is his judgment! He hurries from one unfinished sentence to begin another; his ideas flow too quickly to allow of their sufficiently rapid expression by language. But although Mania, in many instances, is a prolonged anger, it may, likewise, be altogether pleasurable in its manifestations, presenting a condition of exhilaration and uncontrollable excitement, in which the patient is rather mad with joy than anger. It is, however, not the less emotional in character, and is so far a state of irritability, that a very slight amount of opposition would be followed by a display of angry passion.

Some of the cases given by writers as illustrative of instinctive Mania, or of a destructive impulse, may, perhaps, be considered as typical examples of Mania in its pure, uncomplicated form;—a form sufficiently well marked to allow of Dr. Prichard's observation, that "the term Raving Madness may be used with propriety as an English synonym for Mania. All maniacs display this symptom occasionally, if not constantly, and in greater or less degrees."

While, therefore, we regard Mania as usually having its origin in disordered emotions, we fully admit that the whole mind generally suffers in consequence, and that confusion then becomes universal throughout the "countless chambers of the brain."

Symptoms.—Mania has, in almost all instances, its stage of *incubation*; although, as compared with Melancholia and Dementia, the transition is usually less gradual from slight to unmistakable mental disorder.

There may be excitement as the first obvious symptom of deranged mental health.

In a large class of cases, the premonitory symptoms are char-

acterised by gloom and despondency (*Stadium Melancholicum*) —the reverse of the supervening maniacal excitement.

Occasionally, there are cases, as Esquirol has observed, in which persons "sink into a deep stupor, appearing to be deprived of every thought and idea. They do not move, but remain where they are placed, and require dressing and feeding. The features of the face are contracted, and the eyes red and glistening. Suddenly, Mania bursts forth in all the strength of its delirium and agitation."

The physical symptoms by which a state of Mania is ushered in also vary. In the majority of cases, there is a more or less marked departure from the individual's former state of health. Insomnia is one of the most important symptoms. The condition of the tongue, skin, and liver, is usually more or less deranged. There may be no pyrexia; all the symptoms pointing to debility.

Sometimes, however, the invasion of Mania is characterised by acutely febrile symptoms. There are also, in some instances, decided indications of active cerebral congestion.

In not a few instances, the symptoms are referred by the patient to the abdominal organs; in some, a remarkable sensation is experienced at the epigastrium, extending thence upwards to the head.

We may here refer to a case in which an attack of Mania was threatened, but was warded off by timely treatment. There was in this instance, at this early stage, a slight loss of memory. What the patient chiefly complained of, however, was a strong, and to him unaccountable, tendency to be *excited*. He could not sleep. He was alarmed at his tendency to become exhilarated. His head was hot, and he would, of his own accord, get up in the night to bathe it. He complained of pain and a sense of weight at the pit of the stomach, which was full and resisting. The conjunctivæ of this patient were not injected, but bright; the pupils rather contracted; the tongue pale and rather dry; lips congested; pulse about 80, of moderate volume, and soft; appetite very bad; bowels constipated. It may be remarked, in passing, that the symptoms were relieved by prescribing alteratives to remove the obviously deranged condition of the digestive organs, followed by opium at bed-time, and the application of cold to the head.

The symptoms displayed when the disorder is fully developed are by no means uniform, being determined, in part, by the patient's natural constitution of mind, and partly by the degree in which the several faculties and emotions are relatively disordered. The perceptions of the patient, whether primarily or secondarily affected, may, by their morbid action, convey to him a hallucination or illusion which shall be sufficient to determine

the particular character of his conduct. We have witnessed, in a patient, the most violent actions and the most abusive language result from the fear that those who approached her would tread on certain celebrated personages whom she saw in miniature form before her, on the floor of her apartment; and it is of very frequent occurrence for a maniac to perceive, in his medical attendant, the lineaments of some other person towards whom he entertains vindictive feelings, and, in consequence of this illusion, to vent his rage upon him in every possible way.

Innumerable are the delusions which may affect the course of thought and conduct pursued by the patient. Should he believe that he is about to reform the state of society (the prominent symptom of Dr Arnold's "Scheming Insanity"), he overflows with benevolent plans, projects, and intentions, all devised for the certain amelioration of mankind. In all this there seems little to correspond with the description of Mania with which we set out, but if we cannot listen to his plans until his discourse is concluded, or if he should be thwarted in his endeavour to carry into execution these impracticable schemes, a violent explosion of passion accompanied by imprecations and perhaps a display of his pugilistic powers, will probably be the termination, for the moment, of his expansive philanthropy; and the seclusion-room becomes the receptacle of the reformer of the world. He is bent on destroying whatever lies within his reach; his clothes, if not sufficiently strong are sacrificed to his rage; and the scraps of paper on which he has so ingeniously designed the means by which his ideas may be realised, the letters to the Queen and Prime Minister in which he has so conclusively set forth the remedies for the relief of every human ill, are now, it is not unlikely, torn into a thousand pieces. If to this condition be added dirty habits, or the dirt-eating propensity, a truly deplorable picture is presented of what the "lord of creation" may become when afflicted with mental disease. Dangerous violence, destructiveness in regard to senseless objects, a total disregard of cleanliness and decency, vociferous denunciations, loud and threatening language, rapid and impetuous utterance, harsh voice, imprecations and stamping with the feet, now mark the climax of the paroxysm the madman labours under, in this marvellous disturbance of the emotions, involving, as it does, the overthrow of the moral, and the perversion of the intellectual portions of our mental constitution.

The face, and the whole external man would tell, were the

patient silent, of the commotion which is raging within. The tension of the muscles, the contracted brow, the flushed features, the brilliance and congestion of the eyes, the head thrown back in audacious contempt, or fixed in a menacing attitude, the disordered or even bristled hair, the puffing of the neck, and congested veins,—all indicate the mental tempest by which he is agitated.

But it must not be inferred from these descriptions, that every case of Acute Mania presents either such well-pronounced symptoms, or even precisely the same passions of the soul in diseased activity. Fortunately, Raving Madness is to be found at the present day much better described in books than observed in our asylums for the insane, thanks to the altered system of treatment, and perhaps also to an altered—that is to say—more asthenic phase of disease in general. The statement made by Arnold in regard to a patient labouring under "Phrenitic Insanity," that "he raves incessantly, or with short and those rarely lucid intervals, either about one or various objects; and laughs, sings, whistles, weeps, laments, prays, shouts, threatens, attempts to commit violence either to himself or others, or does whatever else the nature of his delirium prompts him to," is not applicable to nearly so large a proportion of cases of Maniacal Insanity as it was when Arnold wrote.

Perhaps the most remarkable fact, in regard to the connection between the mental symptoms developed in Mania, and the physical health, is the slight degree in which the latter is endangered, or even (it may be) materially disturbed. Careful notes taken of the state of the tongue, pulse, the renal secretion, and the alvine evacuations in a condition of great excitement, and compared with notes taken of the same patients when convalescent, will sometimes fail to show that change which would appear to be commensurate with the altered condition of the patient's system. This statement must, of course be so far qualified, that the muscular exertion and rapid locomotion connected with the period of actual violence, necessarily induce some temporary changes in the physical state, such as heat of the skin and acceleration of the pulse, which, however, cannot be regarded as other than the natural effect of certain movements, which effect would take place in individuals performing them, although in perfect health. And it is further sometimes observed, when physical disorder has been marked, that, in the change from excitement to tranquillity, there is a *persistence* of morbid physical phenomena;

that is to say, some morbid physical symptoms were not wanting in the maniacal stage, but they do not pass away immediately on the subsidence of the excitement;—a fact which, to some extent, is explained by supposing that the physical symptoms induced by the cerebral irritation, have not had time to subside, although their immediate cause has disappeared.

The above-mentioned absence of symptoms in regard to the pulse, temperature, &c., is, however, exceptional; and we believe that, in a very early stage (often prior to admission into an asylum), well-marked physical symptoms are rarely wanting; afterwards, the system begins, as it were, to tolerate the excitement to which it is subjected.

A case lately seen at the house of the patient, illustrates the foregoing, well; and it illustrates another fact, which is, that in the onset of the attack, the symptoms may be those chiefly of irritation, while, in the course of a few days, they become much more decidedly febrile in character. The patient—a young man—complained, in the first instance, of feeling generally ill, and was unusually nervous, fearing to sleep alone, &c. His pupils were dilated, the conjunctivæ pale, the water copious and light in colour, and the pulse about eighty. In a day or two, the mind became more affected, and the symptoms of Acute Mania set in. With these psychical symptoms, the conjunctivæ became intensely injected, the urine scanty and high coloured, the pulse more frequent, and the head very hot. The tongue, which was foul before, became increasingly so, and red. For several days, the patient was acutely maniacal; after which, the excitement abated, and, coincidently with this abatement, the tongue became cleaner, the pulse slower, the conjunctivæ paler, and the urine more copious.

What, then, are usually the evidences afforded by the physical symptoms of the patient, of his maniacal condition? Drs Leuret and Mitivié made some very careful observations on the *pulse* in Mania, and arrived at the conclusion, that the mean number of pulsations in a minute is 90, being about 15 above the average of the healthy adult.* According to Dr Conolly, the pulse is frequently quick and feeble, seldom below 96, though it may be only 80, often as high as 120, variable, and readily increased in rapidity. It is difficult, however, to know, as has before been intimated, how much of this increased frequency is due to muscular exercise and other accidental circumstances, and how much to the disease itself. Jacobi thinks, that the condition of the pulse in Mania does not so much indicate the state of the patient's mind, as the physical disorder existing

* Dr Guy made observations on the pulse in fifty persons free from mental or bodily disease; and when compared with the results of Leuret and Mitivié, it would appear, that "it is only between 80 and 90 pulsations that there is any great excess on the side of the insane."—'Forensic Medicine,' p. 270.

with, and probably the cause of it. He regards the observations of Leuret and Mitivié as defective, and appears himself to have arrived at negative, rather than positive results. Dr Foville has made observations on the frequency of the pulse in the insane generally. He took sixty-two patients (male and female) promiscuously, chronic and acute cases, and found the average pulsations to be 84 in a minute. Guislain thinks, that the cerebral excitement of the insane is generally proportioned to the quickness of the pulse. "Occasionally," he adds, "it is slow, as in some cases of Melancholy and Ecstasy, but then there is a peculiar rhythm; each pulsation, even when the contraction of the heart does not indicate disease, presents a certain energy, in some degree convulsive. Occasionally, the pulse is slow, from a diminution of cerebral excitement.* Scarcely ever is there either hardness or fulness of the pulse." The writer is indebted to Dr Savage for the tracings of the pulse in two cases of Acute Mania in Bethlem Hospital given below. He informs us that he has frequently obtained similar sphygmograms in Acute Mania, and that these cases have recovered. "They bear a strong resemblance to those found in fever and acute diseases, but in the maniacal tracings the rate is less and

* Although the appearances presented on ophthalmoscopic examination must, like other symptoms, be subject to much variation, and although the vascularity of the optic nerve is not always an index of that of the hemispheres, we may state that Dr T. C. Allbutt, in his work 'On the Ophthalmoscope in Diseases of the Nervous System' (1871), gives the result of his own examination of 51 cases of Mania in the West Riding Asylum as follows:—In 25 the state of the optic nerves was symptomatic of intra-cranial disease, in 13 it was of doubtful meaning, and in 13 there were either no changes at all, or only local changes, such as glaucoma, &c. In the majority of these cases organic disease was suspected. Dr Allbutt found that in Mania, whether dependent upon organic lesion or only functional in character, the back of the eye, *if observed within a few days after a severe paroxysm, presented a vascular suffusion and pinkness, so great as to obscure the disk.* No exudation was observed in these cases unless some permanent mischief existed. Further, *during the paroxysm itself* the disk was *anæmic* (spasm of the vessels?). He refers the permanent changes in the disk "either to stasis from obstruction to the intra-cranial circulation, with consecutive atrophy, or to *ramollissement*, ending in simple white atrophy; or they may present changes of a mixed character." See also the observations made by Dr Nowes ('American Journal of Insanity,' Oct., 1871) and by Dr Monti ('De l'Ophthalmoscopie dans les Maladies mentales').

We may add that Dr Allbutt found in 17 cases of Melancholia and Monomania that the optic nerve and retina were healthy in 10, doubtful in 4, and diseased in 3. Dr Allbutt very frequently noted anæmia of the retina in Melancholia. Dr Monti says that in Melancholia and Mania in an early stage, and particularly in the former, the results are negative, but if there is decided excitement, retinal congestion is often met with.

the heart-beat more forcible. I have seen the same patient present a similar pulse-tracing in other attacks at the interval of one year or more. I have never seen a similar tracing in Melancholia. The pressure was one ounce in both tracings.

Fig. 10.

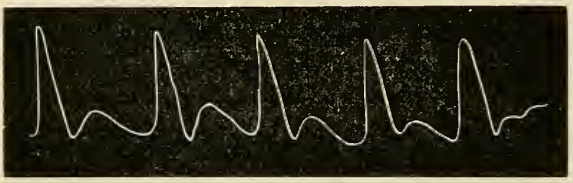
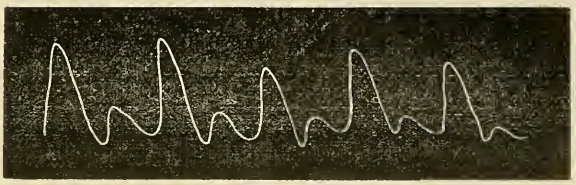
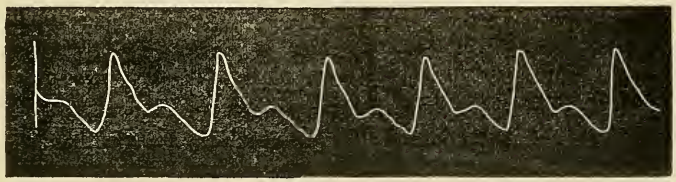


Fig. 11.



The next tracing of the pulse in Mania is from Dr Wolff.*

Fig. 12.



The *skin* is sometimes moist, and offensive to the sense of smell, sometimes dry and harsh. The former condition is, occasionally, the cause of as diagnostic an odour as the never-to-be-forgotten effluvium of a variolous patient; and is then immediately observed on entering a room where the maniac has been for some hours, especially during the night.

The *bowels* are sometimes relaxed for a considerable period in Mania, but constipation is more usual; whether loose or confined, there is very frequently decided evidence of gastric and hepatic derangement. The dirty habits of maniacs are due to careless

* "Beobachtungen über den Puls bei Geisteskranken," 'Allgemeine Zeitschrift für Psychiatrie,' 1867-9.

indifference or design, not, as in General Paralysis, to loss of control over the *sphincter ani*. Dr Jacobi found, out of fifty cases, the bowels inactive in twenty instances, regular and of normal form in seventeen; while, in thirteen, the stools were decidedly unhealthy, and, in nine of these, irregularly relaxed and confined.

The *urine* is frequently sufficient in quantity, without being high coloured; at the same time, during an accession of violence, it is often more scanty, and deeper in colour. Some years ago Drs Sutherland and Rigby examined the urine of a large number of patients at St Luke's, and found that in 100 cases of Mania, it was of "dark colour" in 52, and deposited a sediment in 87 instances.* Contrary to the conclusion at which Erlenmayer arrived, namely, that the urine is generally alkaline in recent cases of Mania, Dr Sutherland concludes that it is generally acid. Incontinence of urine is common, and is due to the causes referred to above in reference to the fæcal evacuations.

The *tongue* may be redder than it should be, its muscular tissue firmer, and its papillæ unduly prominent. Of 50 cases of Acute Mania examined in this respect by Jacobi, the tongue was in 17 instances very foul, white or tawny, grey or yellowish grey, but in no case actually dry, although it was frequently but little moist; in 16 cases the tongue was slightly furred, and in the remaining 17 it was quite clean. In the same number of cases, the breath was in 20 sweet, in 15 somewhat offensive, and in the same number decidely so, in some of these being "exceedingly sour." In regard to the *saliva*, the same observer found out of 50 cases, that it was excessive in quantity in 21 instances (in 2 of which it was only so during the paroxysm), and slightly increased in 4.

As a rule, the *appetite* of maniacal patients is large, often excessive; sometimes more so at the onset, and during a paroxysm, than when the patient is calmer. A maniac may refuse food altogether but he rarely persists so long as to occasion any danger. Referring to Dr Jacobi's 50 cases, we find that in 23 the appetite was normal, in 13 it was voracious; in 7 it was at first poor, but subsequently excessive; in 3 it varied, in 2 the appetite was increased during the exacerbations, and in the remaining two it was very bad.

Thirst was a prominent symptom in 7 cases; in 9 there was less than usual; and the remaining 34 did not vary from a state of health in this respect.

* For the chemistry of the urine and blood, see the chapter on Pathology.

In the majority of cases of Acute Mania occurring in women there was suppression of the *catamenia*.

As regards *nutrition*, the patient generally gets thinner; the remark applies here that was made in regard to the pulse, that it may result from circumstances associated with, but not essential to, the disease. In some cases, there is marked emaciation. In 21 of Jacobi's fifty cases, there was very decided evidence of defective nutrition, and in 15 this was in some degree the case; in 15 cases there was more or less evidence of dyscrasia, and in 14 the complexion was sallow or earthy with a dark areola under the eyes.

The diversity of symptoms in Mania may, to a great extent, be explained by the well-known fact, that an equal amount of excitement may result from two distinct and opposite conditions of the system; excessive nervous action often co-existing with deficient nervous power. This is most important to bear in mind. One patient may be mad from an excess, another from a deficiency, of blood. The former may require depressants, the latter stimulants. There may be excitement and surplus nervous energy, and there may be a state of nervous debility and consequent irritative excitement, precisely opposite in its nature. We may very properly speak, therefore, of *Sthenic* and *Asthenic* Mania, even when both are acute. To the former, the description already given of the physical indications, more especially applies. In the latter, the pulse is often very feeble, although frequent; the tongue is decidedly pale, thin, flat, flabby, and indented at the edges; the lips pale; the conjunctivæ watery, or if vascular, not presenting the same bright red injection which is generally present in acute Sthenic Mania; the pupil is not so much contracted, and it may be dilated. In books a dilated pupil is sometimes mentioned as characteristic of Mania, but this is by no means the case; and, when it is present, we have usually found it in Mania of the asthenic variety.* The scalp may, or may not, be hotter than usual; and in regard to this, and other symptoms, it may be observed,

* Dr Pliny Earle, however, in an excellent paper in the 'American Journal of Insanity' (April 1854), observes:—In many cases of the most furious Mania and that too, not unfreqnently, in robust or plethoric persons, the pupil remains of its natural size. Sometimes, it is even dilated. The cases in which it is generally most contracted are those of slender, nervous, perhaps debilitated persons, in whom there are various evidences of high excitability, and who not only tolerate but require a tonic, sometimes a stimulant treatment."

that no just inference can be drawn from any one of them alone; they must be judged of in their entirety.

Extreme, and sometimes sudden, exhaustion, is a symptom always to be feared, and carefully to be watched, in the early stage of Acute Mania—while the loss of flesh, so often observed, is not, even when very considerable, a circumstance which need occasion alarm, either as to the recovery of mind or body.

The late Dr Bell of America in 1844 specially called the attention of the profession to a form of Mania in which the disease runs a rapid course and is attended by extreme exhaustion after excitement. In "Bell's disease" (as it has been called), the attack is sudden, and loss of sleep, delirium and loathing of food are prominent symptoms. Others have called it typhomania.* Dr Bell makes no reference to the *délire aigu* of French writers, the acute delirious condition corresponding to the phrenitis of the ancients, which is distinguished from ordinary acute mania by more fever, more incoherence and inability to recognise those around, by its rapid course, extreme prostration, and frequently fatal termination, but we have no doubt Bell's cases belonged to this category. We should place under the same division seven cases reported by Conolly in the Lancet (1845), all of which proved rapidly fatal, one of which is thus described:

"A male patient, aged thirty-six, a coachman, lost his situation, and became maniacal in consequence, threatening the life of his wife, trying to get out of the window, and saying that the devil was in his room. When admitted, about a fortnight after his attack, he was thin, pale, restless; always talking incoherently, or singing; his tongue was white, but it soon became dry and coated, and then in a few days moist. At first he refused food, then took it freely; the bowels were costive, his voice was hoarse, the pulse at first 96, soon afterwards 120, and always very feeble; he could give no distinct answers. Here was a case of recent Mania from a moral cause. Leeches were applied to the head, he had warm baths; croton oil was given when food was refused; the tincture of henbane at night, and after a trial of this medicine, porter; but he sank rapidly, became quiet and sleepy, and died ten days after admission."

Conolly's diagnosis bears out Bell's supposition that in some asylums, deaths from Acute Delirious Mania are ranked under ordinary Acute Mania. See several cases of *délire aigu* in Dr Blandford's work, 'Insanity and its Treatment,' 1871, p. 220.

To return to ordinary Acute Mania it must be observed in

* Dr Ray distinguishes between them. See the 'American Journal of Insanity,' July and Oct., 1853.

regard to its subsequent course that it may either yield rapidly to treatment, may end as in the cases we have mentioned, in death by exhaustion, may recur in paroxysms in an intermittent form; may become chronic, or may terminate in Melancholia or Dementia.

It is generally said that one third of maniacal cases are intermittent. The paroxysm may return at various periods, being occasionally marked by very regular intervals of a month, a week, or two or three days. Schr. v. d. Kolk mentions the case of a patient who every other day about dinner-time became greatly excited and at last furious, but towards evening became calm, remaining quiet during the next day also and his speech betraying but slight mental confusion. In another case the attacks came on every third day during four years. Such short intermissions must be distinguished from those longer periods of complete recovery which are designated "lucid intervals" (p. 27). It should here be observed that in Mania the remissions are rarely the same as regards the period of the day as in Melancholia, in which the exacerbations so frequently take place in the morning. With the maniac the night is often marked by great excitement, the patient who went to bed tolerably calm awaking from sleep wild and incoherent, while the day again may begin with comparative tranquillity.

The term "recurrent" is more conveniently restricted to those cases in which the patient recovers, probably leaves the asylum, and relapses again into Mania. In the case of a lady known to us, a maniacal paroxysm comes on every year. They form a disappointing class of cases, in which exposure to slight exciting causes, acting upon an unstable brain, upsets the balance of the mind, and it is often to be observed that one of the first symptoms of a return of the disorder is a recurrence to exactly the same subject of excitement and delusion which marked the first attack. This recurrent form constitutes, from its importance and distinctive character, an important variety of Mania.

When Mania becomes *chronic*, we witness an almost hopeless form of Insanity which is only too common in our asylums. The morbid phenomena of sensation are now often strikingly exhibited.

Many of the cases we have already given under Delusional Insanity and Monomania are usually classed under the chronic stage of Mania. It is unnecessary to describe further the delusions and hallucinations arising in this state. For years the

physical health of such patients as well as their mental condition may remain almost stationary, and yet in a large number of cases the maniac has an ill look, a haggard expression, makes little red blood, is cachectic, and although he may not attract any special attention as being out of health, and, indeed, has not any prominent morbid symptom, he would, were he placed by the side of a man enjoying robust health, present a sufficiently striking contrast. He would look etiolated.

Mania may pass, as we have said, into Melancholia; and if these two conditions alternate, it assumes the unfavorable form of circular Insanity referred to at pp. 232, 233. A lady at the Retreat had for five years attacks of excitement and depression on alternate days. Or again, the patient may lapse into Dementia, into which it may be said that Mania manifests a constant tendency to degenerate. Indeed, Chronic Mania when advanced is so little distinguishable from Dementia, that the mental condition which one physician would call the former, another would designate as the latter. Of 49 cases of Mania admitted into the York Retreat which ultimately proved fatal, the following was the mental state of the patients at death. In 30 the form of disorder was unchanged, 8 having, however, decidedly improved, while 22 were no better. In 19 the form had changed, 16 into Dementia and only 3 into Melancholia.

It fares, indeed, with the patient after an attack of Mania, as with a city or garrison after the horrors of an assault. The milder but more permanent supremacy of the enemy may succeed: or the whole may present but a heap of smouldering ruins; or the re-action of native strength having repelled the foe, there may be more or less of obvious dilapidation to mark the fierceness of the conflict.

Ætiology.—See the causes of Insanity in general, p. 54.

Mania occasionally arises from erysipelas. We have recently seen a case in which this cause operated.

See a case in 'Guy's Hospital Reports' for 1873, of a female æt. 47, attacked with facial erysipelas eight days before admission, which subsided in four days. An outbreak of Acute Mania occurred two days before entering Guy's; she had to be sent to an asylum. A peculiar case of Transient Mania following an attack of erysipelas of the face, is reported in the 'Journal of Mental Science,' Oct., 1875.

Of Mania arising in connection with epilepsy, General Para-

Fig. 1

Lond International
Exhibition. Cat. Sub I. page 46 b
955e Illust.d Catalogue Lond 4.o 1862
957e Official do. Lond 8.vo 1862
957e Reports of Juries Lond 8.vo 1862
955e Official Catalogue " 8.vo 1851

Fig. 2

I am getting
stronger every week
& hope to resume
my duties in a few
days if you
grant me leave of
absence for a few
months leave.
Your Respectfully

Fig. 3

With kind
regards to all
Yours Very Truly

(1866)

Fig. 4

Yesterday Thursday &
September 7th
I have got a pass
of a pair Howard &
I thought one of one
could use a bottle
in some work I have
I have

(Etat 44. 1877)

Fig. 5 Court of Common Pleas
Retreat and others Dr to
~~Chairman~~ For the manufacturing
of various Metals, Gold, Silver,
Iron, Tin, and Copper.
John Rowlands and Family 3 Stand
Several Lots of fine gold probable
200 and a great number of small
receipts for labour probable 2 to 10s
the whole value Red Chalk formed
Gosport & Castle Howard)
200 Quadrillions Edinburgh
Wilson & Hill Irton Cumberland
2 Thousand Quadrillions.

Fig. 1

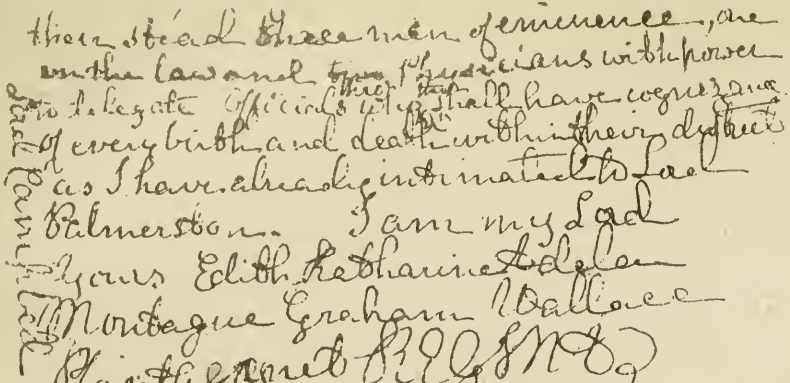
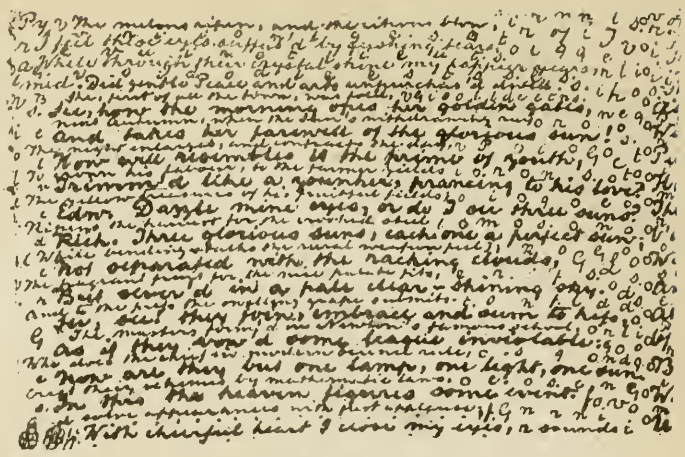


Fig. 2.

I was so happy in your company yesterday I never remember having such a happy Sunday with sincere hopes that ~~that~~ I have not yet seen the happiest

Fig. 3



I have base to ~~sell~~ as the over agent can and he did ~~before~~ Before me fondendest Your affectionate ~~friend~~

PLATE V.

lysis, and the Puerperal state, we shall have to speak in a subsequent chapter.

Prognosis.—Unfavorable in acute maniacal delirium (*délire aigu*). Favorable in ordinary Acute Mania. A noisy boisterous mania is usually recovered from.

The mortality at the York Retreat of those admitted in a state of Mania, in forty-four years, was about 4 per cent., while in Melancholia it was more, viz. nearly 7.

SUPPLEMENTARY NOTE.

Handwriting and Composition of the Insane.

We proceed to explain the accompanying *facsimiles* of the handwriting of the insane. With some exceptions they were inmates of the York Retreat or the Bootham Asylum, York, under Dr Needham's charge.

Plate IV.—Fig. 1 represents the very neat (sane) handwriting of a young man under our notice who became a general paralytic. His writing when he was considerably advanced in general paralysis is represented in Fig. 2. A striking contrast.

Fig. 3.—This was written before any symptoms of insanity were manifested by a gentleman subsequently under our care for general paralysis.

Fig. 4.—Written by this patient a short time before his death.

Fig. 5.—A case of delusional insanity. The morbid indications of this writing are conspicuous by their absence. It is given for the purpose of contrasting the handwriting of a patient labouring under exalted delusions as to wealth (a bill containing ridiculously large sums being made out to himself), with what the writing would have been had these delusions been associated with general paralysis. The importance as a test of inducing a patient to write is thus shown by the contrast with Figs. 2 and 4 on the same plate.

Plate V.—Fig. 1 represents the handwriting of an incurable case in the York Retreat, the patient labouring under the delusion that she is a royal personage, a fact brought out in the signature, which may be said to be written as well as conceived insanely. The style of writing is thoroughly insane.

Figs. 2 and 3.—Handwriting of the patient whose pulse-tracing is given at page 323. The contrast between his writing in health (2) and when labouring under general paralysis (3) proved valuable in diagnosing this case; exalted ideas not being a prominent symptom, and the gait at the same period not being distinctive.

Fig. 4.—Partial Dementia. The specimen here given, commencing—

"The melons ripen and the citrons blow—"

forms only a minute portion of a large sheet; this sheet being one page of a book,

consisting of 200 pages of equally closely written matter penned at different times. It will be observed that the *first* and *third*, and the *second* and *fourth* lines, are usually continuous. It consists of extracts from poetical works, as Shakespeare, coupled with cabalistic marks of his own *p, p, o, e, p,* &c., in conformity, Dr Needham thinks, with some delusion.

Plate VI.—Fig. 1 forms an excellent contrast to the preceding specimens, being written by a female of moderate education, while the subject of Acute Mania. We are indebted to Dr Needham, of the Bootham Asylum, York, for this characteristic illustration, as also for those given in Fig. 2, and Plate V, fig. 3, Plate VII, figs. 2 and 3, and Plate VIII.

Some years ago a male patient in the Retreat, in a state of Active Mania, and even violent excitement, not accompanied, however, by such a delirious flow of ideas as to cause incoherence, wrote the following —

GEOLOGY.

Geology is certainly almost Wholly of Modern Creation !—It may be its Misfortune —that "the *Classic Page*"—has never dwelt—upon it !—It forms undoubtedly no Theme for the Wisdom of Plato—or the Eloquence of Demosthenes ! It can boast of no noble Inheritance from *Ancient Philosophy !*—no Illustrious Pedigree in a Proud Antiquity. It has received no Contribution from *Euclid* or *Achimedes !* Its Province is mere | MATTER. Yet with all these LITERARY Disadvantages it stands upon an Eminence in Abstract Utility.

Above all *GREEK*—above all ROMAN *Fame.*

Other Sciences administer—in their Single and Proper Sphere to the wants and pleasures of Mankind but Geology is the Universal Servant of the ARTS ;—and almost the Greatest Contributor to HUMA Comfort Wealth HAPPINESS and Convenience ! !—The AGRICULTURIST—is indebted for HIS Implements to GEOLOGY ! The Spade—and the PLOUGH !—The *Tube* and *Glass* of the ASTRONOMER !— The Instrument of the Mathematician !—The MACHINE of the Artizan—and the GOLD and SILVER of Commerce !—Alas ! even that Villainous Saltpetre—Which Many a Good—Tall fellow Has destroyed. * * derive alike their Origin in Great Part from GEOLOGY. The MINER—Supplies the *Laboratory* of the *Chymist.*— The *Museum* of the *Lapidary !* and all Wonders of Mineralogy. HE Furnishes the ARCHITECT with Materials, for the Palace—the cloud capt TOWER the CASTLE & the COTTAGE—HE Procures the COAL Black Diamonds—that diffuses Health and Cookery through our dwellings—the FIRE that Warms us !—and Facilitates the Fruits of HIS Toil—the Acquisition of OUR Food and Clothing.

Yet with all these undeniable and essential services GEOLOGY the study of the structure of the EARTH has remained till of Later TIME almost wholly within the Circumscription of the Book of the Memory of AN OLD—MAN.

The interest of this production consists, we repeat, in having been written by a patient in a state of acute mania.

Fig 2 is the production of an old man, a chronic maniac, a Roman Catholic tradesman, whose impression was that he could reform the world, get rid of war, and pay off the National Debt by praying and writing, which he did constantly for many years. He spent all his time upon his knees, and most of it in his own room, where he used to write incessantly. His writing was as much a religious exercise as his prayers, and the amount of manuscript produced was enormous. The lithographic

specimen forms a small portion of one of a number of large sheets similarly crossed. It commences with "134 = fessor and Believer in The [*Catholic Faith and in perfect and unrestricted Communion with the See of Rome. But it is the great*] est Curse that God can Inf [*lict upon a Human Being to be a slothful and lukewarm Catholic*] and if Mankind would Thi [*nk upon this, instead of being the scene of dissipation, it would be quite*] as easy to be a Saint in The [*Palace and Court of an Earthly King as in a Cloister, and transact more business for the*] Good of The People, pro Bono [*Publico, in one hour by their good example than hath been effected in England and every other*] Nation similarly situa [*ted, both good and evil, for three Centuries by completely vanquishing and putting to rout*] Satan and all His Host [*and causing his Commander-in-Chief and Mock-grace the counterpart of Napoleon to*] Trumpet a Retreat to [*all his forces*] by The Blessing of God [*alone, removing in toto the National Debt and every other evil that these centuries of Sa*] tan's Government has [*inflicted upon the world," &c.*].

The crossing commences "to Believe that the Catholic Relig [*ion is not the true Faith and that he himself*] does not believe that he professes [*and the Church teaches him to believe, otherwise he*] could never find any adva [*ntage, &c.*]."

PLATE VII.—Fig. 1 is written by a patient labouring under General Paralysis, discharged from the "Three Counties Asylum," near Hitchin (relieved, but sure to relapse), by Mr Denne, to whom the letter is addressed. A close examination of the writing will betray to a practised eye considerable unsteadiness, and the running of one word into another, while the word itself is divided.

Fig. 2 is written by the same patient as Pl. V, fig. 4, and it is an interesting fact, and one which might be of great importance in evidence in a Court of Law, that, although he wrote the first specimen some time before the second, his mental condition was essentially the same at both periods. Yet the evidence of incoherence and partial dementia is unmistakable in the latter production. The letter is addressed to "His Majesty of a Sphere." Thus, although, as Dr Needham justly observes to the writer, the patient had no difficulty whatever in *transcribing* with coherence, he could only *compose* incoherently. This patient laboured under delusions about Genii. In another letter addressed to "His Majesty of a Sphere, Great Deamond Ann and a teo," he says, "Have the kindness to remember Majesty God Esperide duty as it relate to the new Esperiah hath terminated. Dear Mr Great Deamond Ann and a teo, Your obsequious Madar and tone." It is an admirable example of incoherence.

Fig. 3 is an attempt made by a patient at the Bootham Asylum, far advanced in General Paralysis, to write the first and second verses of the 103rd Psalm, "Bless," &c. Education moderate.

PLATE VIII.—Fig. 1 represents the handwriting of the same man when in health.

Fig. 2. Handwriting of the same patient in an earlier stage of G. P. than in Plate VII, fig. 3, commencing, "August 14, 1872, Bootham Asylum, York. From King Charles III of England and Wales, Scotland, Ireland. I write these few lines hoping to find thou in good health as it leaves me at present. Thank God for it. I have been confined in this wicked place as Doctor Needham is one of the most fearful wicked men. If I was master over this place about two years, could cure every man in this place by faithful prayers by my Father which is in Heaven. . . . And I was in fact the Creator of the world and Redeemer in love and happiness all the days of my life. May the Lord God of Hosts. It just suits these evil men and the women too. I am very sorry for the coal trade getting in such a state [see fig. 1] but I will alter

that when I get my liberty from this place. I will buy all the coals myself and send them to all stations and to all consumers and have no more agents for it—them at have got all the profit, but God have mercy upon them for their wretchedness; they are greedy of gain. . . . . and with that stop banks, and if that does not stop them, send them out of the country, but believe always in me and I will from all thy sins set free. So no more at present from King Charles III and George. Your affectionate and well wisher. Your humble servant, C. P."

Fig. 3 shows the handwriting of another patient with General Paralysis at the Bootham Asylum. The writer was a large manufacturer, and well educated.

In a case of incipient General Paralysis under our notice, the patient's correspondents were struck, some time before he was in a condition to be removed to an asylum, with the remarkable change which took place both in his handwriting and spelling. In fact, the first symptom of any mental failure was (along with bad writing in place of a compact regular hand) this striking confusion in the orthography. For instance, he had frequently occasion to mention in his letters a vessel bearing the name of *Phœnix*, which in health he spelt correctly enough, but after an invasion of his malady he spelt *Feighnex*.

To enter fully into the indications afforded by the composition and cheirography of the Insane would occupy more space than our limits will allow. We must, therefore, content ourselves with the following brief summary, and with the references to this subject at the foot of the page.*

1. There may be nothing whatever in the *handwriting* of a patient to indicate the insanity which his *composition* betrays. This applies to many cases of Delusional Insanity, *e. g.* the case recorded at p. 216. His writing, though bearing the marks of the haste which characterises his manner and his rapid mode of speaking, is very good.

2. When persons begin to omit words or spell badly in their letters, suspicion must be excited as to their sanity, and in many instances these are early signs of General Paralysis.

3. As General Paralysis advances, the writing becomes more and more illegible till it consists of little more than unconnected strokes. A patient may so far recover from General Paralysis as to leave an asylum, and his handwriting may be free from decided faults, and only indicate a certain shakiness, as in the neatly written letter, a facsimile of which has been given. (Plate VII, fig. 1.)

4. In a paroxysm of Acute Mania, if the patient can be induced to write, there is ample indication of incoherence, but he has not forgotten his letters.

5. In quiet Melancholia there may be little or nothing in the execution of the writing, although a great deal in the burden of the letter, to indicate the mental condition of the patient.

6. It is very frequently observed in the letters of the Insane (often in an early as well as a later stage), that a large proportion of the words are underscored, and many words are in large capital letters (see page 306); also that every possible bit of the paper is covered with writing, which is often crossed. We have before us a letter written by a young lady under our care, the subject of suicidal Melancholia, which

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* 'On the Writing of the Insane,' with Illustrations. By G. M. Bacon, M.D., 1870. 'Étude Médico-legale sur la Folie.' Par A. Tardieu. Paris, 1842. "Lectures on the Physiognomy of Insanity." By Professor Laycock.—'Med. Times and Gaz.,' Jan. 4th, and Feb. 15th, 1862; and for writing in cases of Aphemia, Aphasia, &c., see Dr Hughlings Jackson's article in 'Lond. Hosp. Reports,' vol. i, 1864.

Fig. 1.

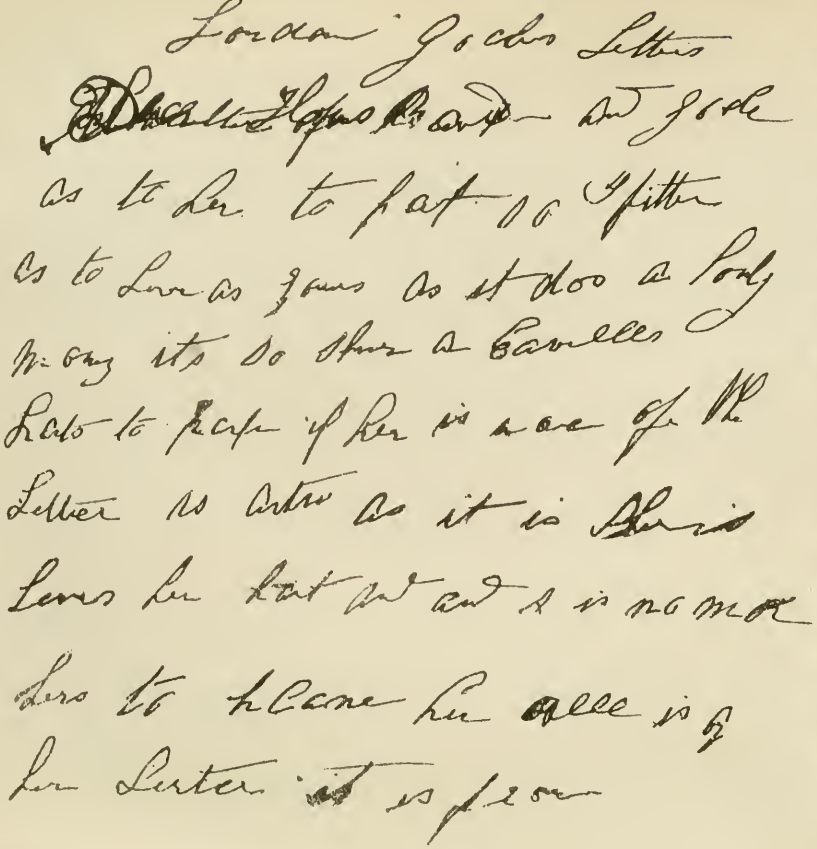


Fig. 2.

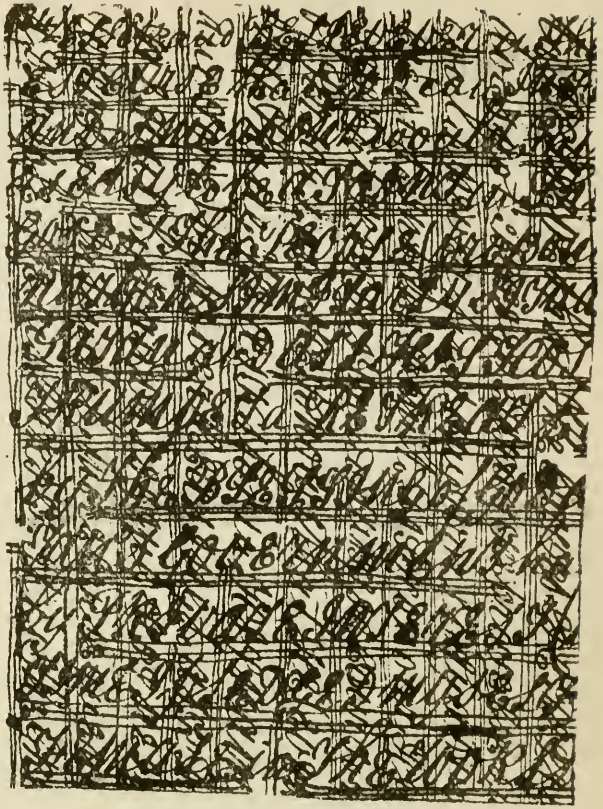


PLATE VI.

Fig. 1.

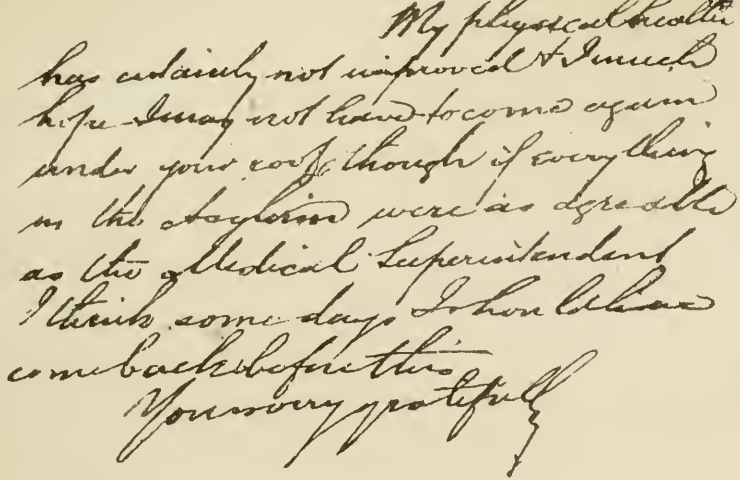

My physical health
has certainly not improved & I much
hope I may not have to come again
under your care though if everything
in the asylum were as agreeable
as the Medical Superintendent
I think some day I should like
come back before the
Yours very gratefully
His Majesty of a Sphere
Great Genii
of the Espheriah

Fig. 3.

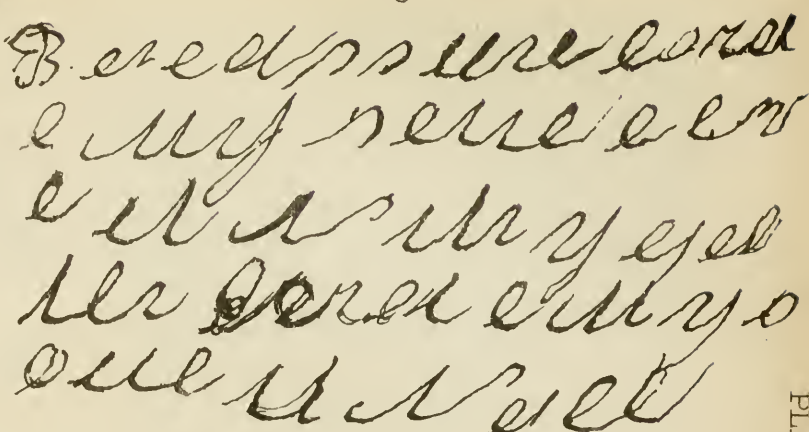
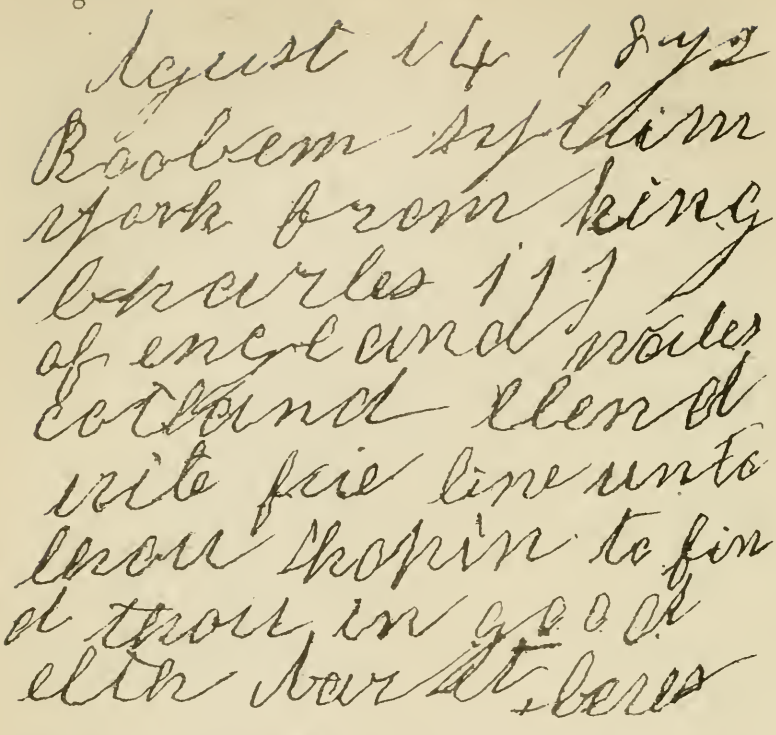

Gary Mr Pro
You are you in your Ann and a
vase - you are you in stone - you
are your self and know - and here
is not
Gary Mr Pro
your Servant

Fig. 2.

PLATE VII.

Fig 2.



August 14 1842
Robert Aylin
work from King
Charles 1st
of England Wales
Scotland Send
write fair Line unto
Leon Chopin to fin
d trout in good
clear Water Streams

Fig. 3

Boles Hall and by Daule
and all and all that is in
or in Boles at the Mam
bles the Lord of this Sale
and paget natal his
benefits

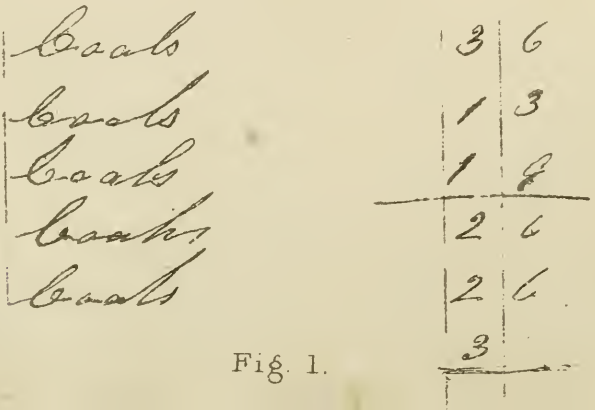


Fig. 1.

indicates nothing remarkable, but other letters written about the same time, which we have not seen, are stated by her friends "to have this singular feature about them, that in every sentence there would be many words underscored, and almost every sentence would be followed by notes of exclamation—two, three, or four of them. This was altogether independent of the matter of the sentence, and was not confined to her correspondence. She would write her name in a book in just the same way. Her latest attack, however, had no such signs attending it. So far as we could see, her writing in every way was quite natural."

7. The artistic designs of the insane are often very characteristic. One now before us represents in colours a vision seen by a patient as he lay on his back on the ground. It was his only delusion. Their erotic character is frequently useful in indicating the nature of the patient's delusions.

8. In some instances the handwriting of the insane appears to be quite automatic in character—an example of reflex action of the cerebral hemispheres; but the writer is unable to give, from personal knowledge, a satisfactory illustration of these ideo-motor productions. In mental epilepsy this may occur. An epileptic compositor has been known to set up his types automatically, and repeat the same words. The compositor set up the following type:—"Chri Ciisrishian years days associations, was ashoiciacation afforcited for the ogffer cas chere chere choredess;" whereas the sentence should have been "Christian Association was held at Westborough yesterday. Officers for the ensuing year were chosen as follows."—'The American Journal of Insanity,' October, 1873.

CHAPTER IV.

BRIEF SKETCH OF VARIOUS FORMS OF INSANITY FROM A SOMATO-ÆTIOLOGICAL POINT OF VIEW.

The importance of approaching the consideration of the various forms of Mental Disorder from several points of view has been insisted upon in the chapter on Classification.

Hitherto we have described insane states, in accordance with the symptomatological division which we laid down for ourselves at the commencement. But there remain undescribed certain well-recognised forms, which do not bear names indicative of mental symptoms, and are therefore more fitly treated of from another aspect, that, namely, which indicates the bodily disease or somatic cause allied with the Mental Disorder. How far they are to be regarded as distinct types of Insanity is a question on which much difference of opinion exists. We shall not attempt to describe all the forms which in recent years have been brought forward in the somato-ætiological systems, but shall in addition to describing so well established a form as General Paralysis, supply the reader with some of the evidence which has been adduced in support of most of these varieties of Insanity, so that he may be assisted in the study of mental diseases from this, the physical point of view.

We have said that if we desire to regard the various forms of Insanity, from the point of view now in question, we might make a threefold division (for examples, see p. 52) viz. :—

I. Insanity, or mental deficiency, caused by primary disease, or defective development, of the encephalic centres (Protopathic Insanity).

II. Insanity caused by disorder of, or developmental changes occurring in, other organs than the encephalic centres (Deuteropathic Insanity).

III. Insanity caused by alcohol and other poisons. (Toxic Insanity).

FIRST DIVISION.—PROTOPATHIC INSANITY.

Congenital or Infantile Deficiency.

See Section on Idiocy (p. 142).

Insanity from Injury to the Head. Traumatic Insanity.

We have seen no reason to doubt the justice of the criticisms offered in the last edition, to the allegation that injury to the head induces, in different persons, similar mental disorder. Thus, while we have seen Melancholia, &c., induced by a blow or fall on the head, we know of a patient at the Bootham Asylum, York, who received a blow from a cricket-ball, and in his case Dementia supervened. On mentioning parallel instances to the late Dr Skae, he replied that the exception proves the rule. The exceptions in the various ætiological forms of Insanity are, however, too numerous to allow of this explanation (see pp. 48, 50).

In six cases of mental disease caused by injury to the head, recorded by Dr C. Browne in the 'West Riding Reports,' vol. ii, we observe that one, an infant, became idiotic; another, a boy, æt.10, who knocked his head against the wall from time to time to avoid school, had Acute Dementia; another, æt. 16, had Hysterical Mania; a fourth, æt. 35, who received a kick from a horse on the head, had Acute Mania; a fifth, æt. 46, laboured under Melancholia; and the sixth, æt. 65, was the subject of Senile Dementia.

At the Royal Naval Hospital, Yarmouth, a patient was admitted in 1869, the exciting cause of whose mental symptoms, which somewhat resembled those of General Paralysis, was a fall on board ship from the main to the lower deck, by which he was for the moment stunned, but did not find it necessary to lay up. He, however, said he was never the same man after the accident, and that he had lost his nerve. He became suicidal. When admitted under the care of Dr Macleod, Inspector-General of Hospitals, R.N., to whom we are indebted for these particulars, he was irritable, very emotional, peevish, restless, sleepless, and exceedingly depressed. Other symptoms were headache, twitches about the face and extremities, tremor of lips in attempting to speak, slight thickness of speech, and a slight impediment in articulation; walked at times with difficulty; obstinate constipation. His memory, however, was perfect, and he was able to give minute directions to his friends about his affairs.

We have stated that the symptoms in this case *resembled* those of General Paralysis. There was, however, no tendency to mental degeneration, nor were there at any time any exalted delusions. Dr Macleod frequently recommended him to go home, but

he himself felt satisfied that the Asylum was the right place for him, and appeared afraid of his suicidal tendency. He became conscious of diminished motor power in the lower extremities. He frequently had a fainting sensation, and involuntary twitches all over the body. One day he became for some time unconscious when in bed, and had the muscular twitches very strong on consciousness returning. About a week after, he had slight, but decided epileptiform convulsions, and a repetition of them nearly three months subsequently, followed by stertor and unconsciousness for six hours. About two months later (December 7th, 1871), he was found in a state of coma, and had occasional convulsions. Pupils contracted; pulse 99; respiration 29 per minute; the temperature rose.* He died on the following day. No post-mortem allowed. The father of this unfortunate gentleman (who was considered one of the best officers in the service) died insane; his paternal grandfather and grandmother were also insane at one time, and his father's brother is now a patient in an asylum. Here then, while, as we have said, the exciting cause was traumatic, there was a terrible dormant hereditary predisposition to Insanity—a magazine, which only required a spark to cause a fearful explosion.

Dr v. Krafft-Ebing has classified cases of so-called Traumatic Insanity according as they are (1) the direct consequence of an accident, (2) manifested later, after the *prodroma* of disordered motor and sensory phenomena, and change of character, preceded by a latent condition of susceptibility (the result of the accident) which we may call an acquired predisposition, and which only requires an exciting cause to be developed into actual Insanity.

General Paralysis or Paresis.

Synonyms.—*Paralysie générale des Aliénés* or *progressive, Folie paralytique* (Fr.); *Allgemeine Paralyse der Geisteskranken, Paralytischer Blödsinn* (Ger.); *Paralytic Dementia, Progressive General Paresis.*

Definition.—A disorder marked by general and progressive loss of co-ordinating power over the muscles, especially those of speech and locomotion, combined with mental enfeeblement always tending to Dementia and generally characterised by a sense of well-being or actual delusions of an exalted character.

Symptoms.—These will be most forcibly brought into relief by a few striking cases, in which the symptoms of the several stages of General Paralysis, passing almost insensibly into each other, will be illustrated, namely, the early difficulty of speech, the tremor of the tongue and lips, the uncertain gait, accompanied

* The thermometer stood low throughout, and contrary to what appears to be the general rule in General Paralysis, the morning temperature was high, and the evening low.

by remarkable mental weakness and in many instances the *manie des grandeurs,* followed by almost certain mental degeneration and the loss of voluntary and sometimes even excito-motor power.

In a case subsequently referred to (G. H.), the patient believed he had interviews with the Almighty and the Holy Ghost, that he had £40,000 in the London and Westminster Bank, that he was King of England, and, therefore, accused every one of not paying him proper respect. He promised to clothe the other patients with armour of gold, and said that the buttons in their clothing were made only of *his* gold. In another case, in the same Asylum, the patient (a seaman), when talking boastingly of himself, declared himself to be an architect and that he would build a finer tabernacle than Spurgeon's, and could preach better than he.

The mental symptoms, prior to admission, of a patient examined at the Hull Borough Asylum, whose case we subjoin, were irritability and tendencies of a very dangerous character.

At the Hull Borough Asylum we recently saw a patient (an engine-driver) under Mr Casson's care, who six years before admission had a fall on the back of the head, since which his wife said he had never been the same man. Instead of being good tempered he became irritable, especially with his children, and at last threw knives at them, and tried to stick darning needles into their eyes. When he came to the Asylum he was rather unsteady in his walk, which he attributed to "a stroke." When we saw him fifteen months after admission, he was far advanced in General Paralysis, his gait very bad, his articulation drawling, his pupils unequal, and when asked after his health replying with the characteristic "all right," but had a delusion that in the night some one had disturbed him, taken him out of bed and set fire to it. Here a primarily traumatic case became one of G. P.

The pupils are very often unequal. In regard to the size of the pupils, they are frequently contracted in the early stage; but this is by no means a constant rule, as is shown by a table prepared by Dr Lawson exhibiting the diameter of the pupil in forty cases. A contracted pupil frequently accompanied the latest stage of the disease. ('West Riding Medical Reports,' vol. vi.)

In the same article the result is given of experiments on the perception of pain in general paralytics, from which it appears that 60 per cent. were unaffected by the sudden application to the sole of the foot of a spoon raised to a temperature of 212°; in about 27 the perception was active; in 12 sluggish. Pricking with a needle was not felt in 17 per cent. and the perception of

the pain was sluggish in 22 per cent.; in the remainder it was active.

In the last stage, which may be prolonged for years, emaciation usually succeeds obesity. In some cases the patient dies corpulent. Intense restlessness may be present, but, ordinarily, there is lethargy not only of mind but of body, the repose of which is mainly disturbed by twitchings or epileptiform convulsions. These often terminate life, but the most frequent cause of death is sheer exhaustion.

The patient is reduced to the most pitiable condition of helpless existence; the sphincters are relaxed; the limbs contracted, there is often an almost constant grinding of the teeth; swallowing itself becomes difficult, the respiratory muscles are paralysed, and dissolution ends the misery, or rather the miserable spectacle, with which the painless expression is in singular contrast.

The symptoms, motor, sensory, and psychical, assume a different form and order in some cases from those which are noticeable in others.

Dr Julius Mickle has described five varieties of General Paralysis, pathologically and clinically. With their pathology we are not here concerned, but shall present the symptoms to the reader in as condensed a form as possible, premising that the whole article which appeared in the 'Journal of Mental Science' (April, 1878) should be read.

(*a.*) Mental symptoms variable. Exalted delusions the most marked feature. Maniacal excitement and insomnia frequent. Gaiety, self-satisfaction, benevolence or pride; or patients are selfish, haughty, hostile, obstinate, abusive; or destructive, untidy, and the habits filthy. Transitory depression or melancholia sometimes present. Occasionally dementia is from the first predominant. Motor paresis and ataxy sometimes well-marked, but often masked by mania, or imperfectly developed at first. Motor restlessness; occasional epileptiform, or apoplectiform seizures. Now and then, auditory or visual* hallucinations. Later, defects of general sensation; hypochondriacal sensations.

(*b.*) Early on, exaggerated notions or paroxysmal excitement with strange demeanour, and, rarely, dementia. Finally, dementia, with fitful outbursts of excitement. Patient's self-satisfaction replaced by morose or distressed feelings, and these by obliteration of emotional life. Foul and destructive habits.

* Visual hallucinations are the most frequent in General Paralysis.

Motor paresis comparatively slight *early on;* slow in progress. Bedridden for long; often grinding of teeth. Peculiar absence of epileptiform and apoplectiform seizures, and of sensory symptoms, except blunting of sensibility.

(*c.*) Earliest stage marked by great eccentricity. Dementia well-marked. Melancholic delusions of harm, or the patient is dejected and weeping. Occasionally there is early maniacal excitement, while exalted delusion now and then occurs. Later course, one of extreme dementia. Sometimes destructive, but tractable towards the last; habits degraded. Muscular ataxy and paresis well-marked. Finally, bedridden with flexed contraction of limbs. *Hemiplegia* more or less marked *in all,* generally epileptic in origin, while more limited temporary palsies following local spasmodic movements are frequent. Epileptiform attacks, hemispasm, and local spasm, very frequent. Apoplectiform attacks and aphasia sometimes observed. Occasionally hallucinations, general obtuseness of sensibility, or local anæsthesia.

(*d.*) After peculiarity of conduct, an outbreak of ambitious delirium; dangerous tendencies. Usually complacency, or elation at first. Now and then dementia, with fidgetty and mischievous tendencies. Later, often exaggerated notions, alternately with conditions in which the patients are foul-mouthed, irritable, and depressed; or the latter states predominate. There may, at first, be undiscerning generosity, replaced by an abusive and foul address, &c. The muscular ataxy and paresis of the ordinary type. Occasionally great tremulousness. Hemiplegia frequent, sometimes occurring as a simply paralytic seizure, or after epileptiform attacks, which are very frequent. Sensation blunted in later stage. Occasional hallucinations, and hypochondriacal sensations.

(*e.*) Mental symptoms vary—mental depression, dementia, maniacal agitation, or emotional exaltation. Complacency, passion, gloom, observed in various cases; all indifferent to their degraded habits. Some docile throughout. Muscular ataxy and paresis fairly marked. Usually bed-ridden at last, with contracted limbs. Epileptiform fits, hemispasm, often followed by hemiplegia, very frequent. A few showed hallucinations or anæsthesia.

In one of Dr Macleod's cases, caused by the firing of a 25-ton gun, close to which he was standing, and in whom on admission there were exalted delusions such as that when he shook his

hands gold dropped from his fingers, symptoms arose which are of interest. After becoming quieter, more rational, and his memory having improved, he fell into a state resembling catalepsy. About 6 a.m. of each day he would pass into a condition of perfect stillness, lying flat on his back and not moving a muscle; this continued till 3 a.m. the following morning, when he gave signs of life by speaking to the attendant, and swallowing whatever food was placed in his mouth. At 6 a.m. when the stage of stillness was coming on, he would break out into a most profuse pespiration, which gradually diminished as the day wore on. His temperature both for the morning and evening rose during this period, and once or twice slight twitches were observed. He was to all appearance quite unconscious; his pupils sluggish; and sensation and motion suspended. When this periodic condition finally passed off after a month's duration, he was comparatively rational, and had lost his more prominent delusions. About four months after, these returned in full force, and the disease steadily progressed. It should be stated that on awaking to consciousness (in the mornings) he was evidently under the influence of hallucinations of hearing.

With regard to the condition of the retinæ in General Paralytics, Dr Allbutt, in his work already referred to (p. 298), states that he examined the optic nerve and retina in fifty-three cases of General Paralysis. In five, no change was observed; in forty-one, atrophy of the optic discs in its various stages; in seven, doubtful. He finds the nerve-changes to be generally proportionate to the contraction and dilatation of the pupils, the former corresponding to the early or hyperæmic stage, and the latter to the white atrophic condition. Dr C. Aldridge has pursued these investigations on a much larger scale and published his observation in vols. I and II of the 'West Riding Reports.' He confirms the statement just made and observes, "not only the fact that General Paralysis is present can be rendered probable by the changes observed with the ophthalmoscope, but an estimate may be formed as to how long the disease has existed; for we find that the most complete atrophy of the disc was seen in the female cases, from whose history we find the disease to have been of long standing" (vol. ii, p. 228).

As regards *temperature, pulse,* and *respiration,* we may state that in a case which will be given as an example of the unusual duration of the disease, careful observations were made in regard to these particulars, and although they only have reference to a

single case, as they are accompanied by Dr Macleod's conclusions based on numerous other observations, they cannot fail to be of interest and value to the reader. Dr Macleod considers that this case has a low temperature for such an advanced stage. It will be observed that the lower the morning and evening temperature falls, the greater difference there is between the two periods of the day.*

Average monthly temperature, pulse, and respiration of a case of General Paralysis registered for nearly six years. (See p. 331).

	A.M. Temp.	P.M. Temp.	A.M. Pulse.	P.M. Pulse.	A.M. Resp.	P.M. Resp.
1869—August	99·	99·60	108	114	19	21
September	99·	99·60	106	112	22	25
October	99·20	99·60	95	102	20	23
November	98·80	99·40	98	102	20	22
December	98·80	99·40	90	101	18	21
1870—January	98·40	99·	95	102	18	19
February	98·80	99·40	95	101	18	19
March	99·	99.60	90	99	18	19
April	99.	99·60	92	101	18	20
May	98·60	99·40	90	98	18	19
June	98·40	98·80	88	96	18	20
July	98·40	99·	81	96	18	19
August	98·40	99·20	91	91	18	19
September	98·40	99·20	88	96	18	19
October	98·80	99·60	91	104	18	21
November	98·40	99·60	104	106	19	21
December	98·60	99·40	101	107	18	19
1871—January	98·60	99·40	98	102	18	18
February	98·60	99·40	95	97	17	18
March	98·40	99·	86	90	18	18
April	98·20	99·	86	98	17	18
May	98·20	99·	86	98	17	18
June	98·20	99·20	85	96	18	20
July	98·	98·80	83	92	18	20
1872—January	98·	98·80	88	98	17	17

* It is hardly needful to point out that in taking observations of temperature, care must be taken that there are no diseased actions going on in the system which will give rise to an increased temperature, independently of disease of the nervous system, as, *e. g.* tuberculosis. As lung disease is frequent in General Paralysis, there will, in such cases, be a high temperature, varying between morning and evening, from that cause alone. Further, in health, the evening temperature is somewhat higher than that of the morning.

	Temp. A.M.	Temp. P.M.	Pulse. A.M.	Pulse. P.M.	Resp. A.M.	Resp. P.M.
February ...	98·	98·80	86	98	17	17
March	98·	99·	88	91	17	18
April	98·	98·80	90	94	17	19
May	97·80	98·60	85	98	16	19
June.....	97·80	98·80	76	90	18	20
July	97·80	98·80	76	98	18	20
August.....	97·60	98·60	72	80	16	18
September ..	97·60	99·20	74	81	17	18
October.....	98·20	98·60	80	88	17	18
November...	97·80	98·50	82	88	17	18
December...	97·80	98·80	85	91	17	19
1873—January ...	98·	98·90	85	92	17	19
February ...	97·60	98·60	80	84	18	18
March	97·40	98·40	85	91	17	17
April.....	97·30	98·50	85	91	17	18
May	97·50	98·30	83	87	18	19
June.....	97·60	98·50	80	88	17	18
July	97·90	98·80	81	90	17	18
August.....	97·90	98·70	84	90	17	19
September .	97·70	98·70	80	86	16	18
October.....	98·15	99·20	80	90	17	18
November...	97·90	99·	84	93	16	18
December...	98·	99·30	82	86	17	18
1874—January ...	98·	99·20	83	90	17	18
February ...	98·10	99·20	80	90	17	18
March	98·	98·80	84	90	17	18
April.....	98·20	99·20	85	90	17	18
May	97·90	98·90	84	90	17	18
June.....	98·	98·80	85	89	17	18
July	97·90	98·20	86	90	17	18
August.....	98·20	99·	88	91	16	17
September .	98·	99·	85	90	16	18
October.....	97·90	98·90	85	90	17	18
November...	97·60	98·70	85	90	16	18
December...	97·90	98·90	86	92	17	18
1875—January ...	98·80	99·90	96	100	19	22

Dr Macleod has kindly furnished us with the following summary of his experience relative to temperature:

1. That among the symptoms of General Paralysis there is always a higher temperature in the evening than in the morning; seldom less than 1°, except in those cases where the disease is arrested; then it may be as little as ·4°. 2. That the thermometer shows the progress of the disease when it cannot be satisfactorily discovered by any other means. 3. That in many sleepless and destructive patients, the temperature is higher than it is in those who are quiet and easily managed; but what is more to the point and will be found to hold good in all destructive cases, the difference between the morning and evening temperature is greater, and in some the difference is as much as 2°. 4. That the temperature increases in proportion to the loss of motor power, sensation, and reflex action, and that the loss of motor power,

sensation, and reflex action, is in proportion to the amount of degeneration of the brain and cord, but chiefly of the latter. I am satisfied that there is a higher temperature attending softening of the cord than, *e.g.* of the corpora striata. 5. That in cases of fatty degeneration, where the patient died without emaciation, the temperature kept high until death, and rose for half an hour after death. 6. That in extreme emaciation, the temperature rose until complete relaxation of sphincters took place, including in this the cardiac orifice of the stomach, but in these cases instead of the temperature keeping high until death, it gradually fell two days before death, and the smell was offensive, as if decomposition had already commenced, death as it were, beginning at the extremities from deficient circulation. 7. That it holds true in all progressive degeneration of the nervous system, that it is not the low state of the temperature which is of consequence, as long as it is not under 95°, or the rise, as long as it is not above 98·50°, so much as *the difference between the morning and evening;* the less the difference, the nearer to health. 8. That the higher the temperature, and the greater the difference between the morning and evening—the increase being in the evening—the greater the mortality.

Further, in cases of General Paralysis attacked suddenly by epileptiform convulsions and coma caused by effusion of blood the temperature suddenly falls—it is a stage of collapse—and after an interval of about six hours, reaction sets in and the temperature rises to 103° and 105°. When, however, the epileptic convulsions with coma are accompanied by effusion of serum, the temperature begins to rise rapidly from the first; in this condition chloral generally stopping the convulsions, diminishing the temperature, and cutting short the serous effusion.

Dr Macdonald, of the New York City Asylum, in an article on "General Paresis" ('Amer. Jour. of Insanity,' April, 1877), states that in his cases the average of difference between the morning and evening temperature, was half a degree in the "Sthenic form," while in the "Asthenic form" it was *lower* by half a degree in the evening than in the morning. He adds, "50 cases give an average difference (rise) of 1° between the temperature before and after a maniacal exacerbation, and of 1½° between that before and after a convulsion."

At St Luke's Hospital Mr H. Davy, clinical assistant, has been good enough to register the temperature for us in some cases of General Paralysis under Dr Mickley's care, which we examined. The difference between the morning and evening temperature was not so great as in Dr Macleod's cases, and in some, the latter was the same as or below the former. In one case the temperature was carefully recorded during an apoplectiform attack, previous to which it was about normal. It rose at once to 103·8°, gradually falling to 102° in twelve hours; and on the following day ranging from 100·4° to 98·8°. On the third

day he recovered from the attack. The pulse was not more than 79 and 84, when the temperature was the highest.

In Chapter III, p. 194, we gave illustrations of sphygmographic tracings in health and in pyrexia. With these the reader will be able to compare the following sphygmograms taken by Dr G. Thompson at the Wakefield Asylum, and published in vol. i of the 'Reports' of that Institution, and kindly placed at our disposal by him and the editor, Dr C. Browne.

Fig. 13 represents a typical example. "The line of ascent is slanting and short, while that of descent is gradual and prolonged, and does not display the usual aortic notch, but, instead, presents a number of wavelets, which, if counted carefully, will be found to have eight distinct rises and depressions." Pulse 60. The patient, a male, æt. 33, had been in the Asylum two months with characteristic delusions of wealth, &c., but had quieted down, and his state seemed almost to throw doubt on the diagnosis, when the tracing was made and confirmed it. Subsequent epileptiform convulsions, &c., left no doubt as to the nature of the case.

Fig. 13.

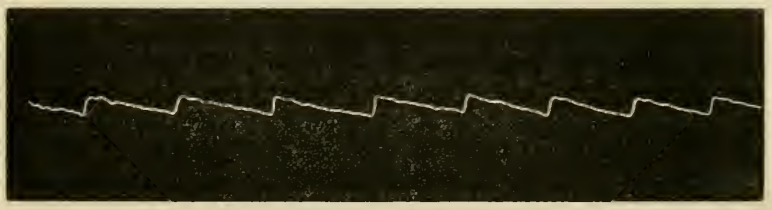


Fig. 14 was taken from a man labouring under excitement—whether involving more than Simple Mania was doubtful at the time. Ultimately, however, the case assumed the form of Paralytic Dementia and terminated fatally. Pulse 75.

Fig. 14.

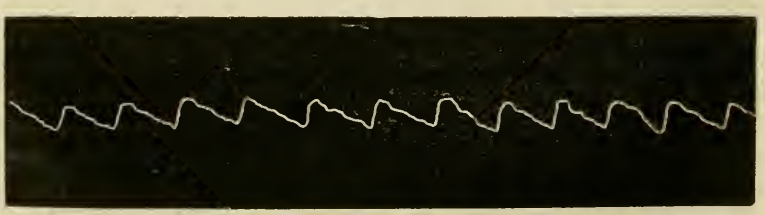


Fig. 15 represents the pulse-tracings of a man, æt. 47, in a

state of wild excitement, with exalted ideas. Subsequently he had marked symptoms of General Paralysis, and became worse and worse.

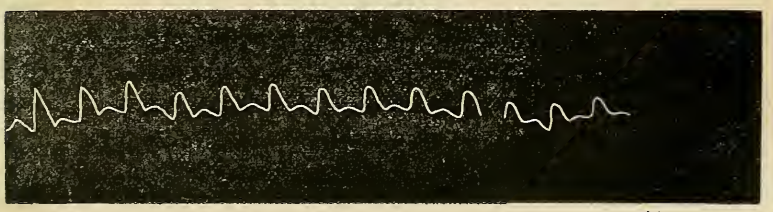
Fig. 15.

Fig. 16 is from a man, æt. 35, labouring under well-marked General Paralysis, but the character of the tracing is altered, and indicates a different condition of the vessels, in consequence of the patient taking Calabar bean for a considerable period, which was followed by marked improvement. Pulse 72. Dr Browne informs us that he submitted to Dr Thompson's examination nine female General Paralytics, of whom he knew nothing, and asked him to distinguish by the pulse-form which were under treatment by Calabar bean, and which were not. After taking tracings, he at once and correctly pointed out four women who were being thus treated, and four who were not. Only in the case of one woman did he make a mistake. She was taking the Calabar bean, and he classified her with those who were not being thus treated. She had only, however, taken the drug for a very short time.

Fig. 16.

Fig. 17 exhibits the tracing of a female patient suffering from

Fig. 17.



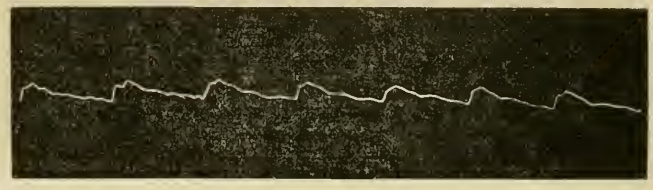
General Paralysis whose pulse-form resembled Fig. 15, but who at the time the subjoined marking was procured, was the subject of inflammatory fever due to bronchitis. Pulse 112. Compare with the figure given representing pyrexia at p. 194.

It may be added that Dr Thompson refers the pulse-changes which take place in General Paralysis to arterial contractions, the result of certain pathological changes; and with these he compares the tracing taken from the wrist of a healthy person immersed in cold water for some time, and therefore chilled (see Fig. 18). It is taken from 'Carpenter's Physiology,' 7th edition, p. 285. The resemblance is certainly remarkable.

Fig. 18.

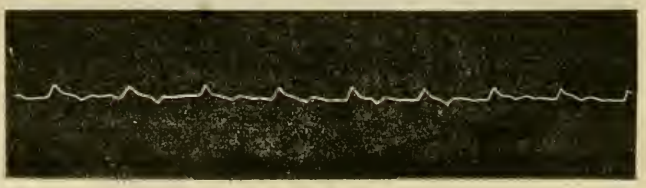
That the tracings taken of the pulse in the same patient will materially vary under different circumstances is well shown in General Paralysis, in which there appears to be a peculiar sensitiveness of the vessels. The three following sphygmograms were taken by Dr Thompson, from a man the subject of General Paralysis in the Bristol Lunatic Asylum. Fig. 19 was taken

Fig. 19.



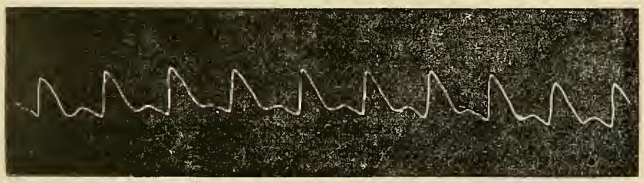
in a low condition of the system. Fig. 20 in a similar state (on

Fig. 20.



the same day) but slightly stimulated by dinner taken between the two tracings. Fig. 21 exhibits a still greater change. It was

Fig. 21.



taken after dinner, when there was "some pyrexic condition of the vaso-motors evidently local as to the system in general." He was admitted, æt. 33, Sept. 30, 1873, with General Paralysis. The tracings were taken in Nov. 1874. He is still an inmate of the Asylum. The pressure in these syphgmograms was 150 grammes. In Fig. 19 the temperature was 96°; in Fig. 20, 98°, and in Fig. 21, 97.

The subjoined sphygmogram of a general paralytic was taken from a patient examined by the writer in the National Hospital for the Paralysed and Epileptic, Queen Square, London, by Dr H. R. O. Sankey, at that time Resident Medical Officer (pressure 5 oz.)

Fig. 22.

The first symptoms were irritability and "stopping in the middle of a sentence." The assigned cause was overwork as manager of a packing department of hosiers. Beyond squandering his money and saying there was nothing the matter with him except weakness in his knees, there were no indications of grandiose delusions. Loss of memory, childishness, suspicions, tremulous articulation, and slurring of his words, and complete change in his handwriting (see Plate V, figs. 2—3) marked the subsequent course of this case. The deterioration in the handwriting of general paralytics is also shown in figs. 1 and 2 of the same Plate, in Plate VII, figs. 1 and 3, and Plate VIII, figs. 1, 2 and 3.

As regards the *age* of those attacked with General Paresis,

we find from Dr Macleod that out of 75 patients admitted into the Royal Naval Hospital at Yarmouth there were—

Between the ages of	20—30	14*
„ „	30—40	32
„ „	40—50	20
„ „	50—60	7
„ „	60—70	2
	Total	75

In a table prepared by Dr Burman, showing the age on admission into the Devon County Asylum, of 266 male patients the subjects of General Paralysis, the highest number (109) occur between 40 and 50; and the next (91) between 30 and 40. Thirty-eight were admitted between 50 and 60; seventeen between 20 and 30; and eleven between 60 and 70. In regard to the female cases, the highest proportion was found to be between 30 and 40. ('West Riding Asylum Medical Reports,' vol. i.)

In respect to *sex*, the comparative immunity of women is a striking feature. On reference to the section on the Relative Frequency of the Various Forms of Mental Disorder, the reader will observe that at the Somerset Asylum, 8·3 represented the percentage of cases of General Paralysis among the male admissions, whilst among the females the proportion was only 2 per cent. Of 1963 male admissions at the Devon Asylum, 276 were cases of General Paralysis, while of 2099 females only 65 were so affected (Burman). This ratio closely corresponds with the foregoing. Other statistics give a proportion of eight males to one female. Mr Denne, on the other hand, informs us that, contrary to his former experience at Hanwell, he sees at the "Three Counties Asylum," Herts, a large number of cases among women.

A patient whom we recently examined and made notes of shortly after his admission into the Royal Edinburgh Asylum, and for particulars of whose history, &c., we are indebted to Drs Sheaf and Haigh, affords us a good illustration of exceedingly well-marked General Paresis in a somewhat early stage.

His articulation was affected, there was a slight tremor of the lips and tongue, and there was a very decided manifestation of the *délire des grandeurs*. He begged to be allowed to go by an early train to Paris to be crowned Emperor of the French. He dwelt with fervour on the beauty of the princesses he should see there. His lips were pale, his voice husky, his aspect worn, his volubility extreme. His pupils appeared to be equal and rather contracted, but it was not easy to examine them on account of his excitement. He was rather tall and good-looking, and decidedly thin.

Since his admission his wife and brother had visited him, and he had become

* The youngest being 21. Dr Clouston has recorded the case of a youth aged only 16. ('Brit. Med. Jour.,' Sept., 1877.)

more excited in consequence, and tore his clothes. On the 5th October, 1872, the note was made, "He is now quieter, but believes he has bought the whole world; that he has millions of money; that he can walk ten miles an hour; will walk to York to-night; that everybody is a jolly good fellow, except some few of his friends, whom he means to shoot."

We find that he became at the age of thirty, without any apparent cause or known hereditary taint, quite altered in his character, very easily excited and vain. Before long he betrayed incoherence in his conversation, had delusions, and appeared to have quite lost all sense of time or knowledge of dates. At last he became so noisy and violent that it was necessary to place him in an asylum. He also threatened to commit suicide. At this time he wrote a letter to his wife, in which he says "*Surely you don't think me insane. You will I hope have the only pleasure I have on earth of seeing me once again at your sight*" (sic). He signs himself,

"*Your sane loving husband*
Love and kisses to my darling children
Yr. devoted husband."

In a letter to his mother he says, "*Here I have been trapped in the most abominable way. . . . If I am not let out at once I shall cut my throat at dinner, so farewell for ever;*" and again, shortly after, he writes to her, "*I am still imprisoned here and tho' I begged you to come and release you have not done. . . . . I am mad raving, and have a great mind to execute a rash act which leaves me but a few ere death seals my doom.*" To a Professor he writes, referring to his confinement, "*No step fraught with more danger and injury to me. I am determined to proceed at the earliest point to raise an action in the Court of Session for several £1000 and will spare no mercy in having them punished.*" Lastly, a few days after, he thus addresses his mother:—"*I am getting very tired of my confinement and if my deeply revered parents and brother and sisters are still burning with the same unextinguishable love for which they have so long been conspicuous I cannot live here over this week. I am sure and convinced that that old fiend and ruffian my father-in-law has been puzzled his old scattered brains for years as to the best devise for rendering this fair and beauteous earth a hell instead of an extactic paradise. I am often in tears especially at night when I reflect on my darling amiable image-god only beloved brother—. He was a Christian and he now wears that crown of glory which fadeth not away.*" Of the asylum he says, "*It is getting intolerable, I cannot, and unless I am instantly set free and restored to the bosom of my beloved darling family. Ah! Mama those who were instrumental in the hellish way they did in putting me here, could not tho' they searched earth and land, sea and sky, or heaven or hell could have adopted a surer or more decided mode of blasting the happiness of life ever set. (Fond love to— affect. son (Signed)——) upon the great reward. Oh if you could only see me here at nights, and also when all alone your bowels of mercy would be moved. I never thought I had a legion of cruel enemies. By let my end be by my own hands or by the will of the Great Creator. I hope my case will be peace.*"

These letters are very characteristic. The reader will observe the incoherence—a word now and then left out—a wrong word occasionally used, as "sight" for "side"—the order of words reversed, and a line sometimes interposed in a curiously abrupt and dislocated fashion. Then, in regard to the matter, the union of pious references (more of which occur in the letter) along with violent expressions in regard to those whom he denounces as his

enemies, is worthy of note. No one familiar with the insane would hesitate to admit the genuineness of such a letter as this. (See Observations on the Handwriting of the Insane, p. 305.)

The following case affords another good example of General Paresis in an early stage, but with rather different symptoms.

E. F—, married, æt. 33, with an hereditary taint of Insanity. He was a very sober man, occupied as a bleacher, and of regular habits, with a wife and family; no exciting cause of his mental disorder is known. About four years before the present attack he had delusions about poison in his food, but after eighteen months' treatment he was able to return to his work. He does not appear, however, to have remained free from symptoms of Insanity for more than about half a year, although nothing transpired sufficiently definite to render it necessary to place him in an asylum until September, 1872. The writer saw him on the day of his admission into the Cupar Asylum, when his thick articulation and characteristic hesitation in pronouncing his words were well marked. His tongue was also tremulous, and his walk slow and somewhat straddling. He looked absent and stupid. We are indebted to Dr J. Batty Tuke for a copy of the notes made by himself and Dr Frazer at the time of his admission, from which we extract the most salient additional features.

Body well nourished. The patient allows his words to drawl out of their own accord, with very little effort. Stiffness or immobility of the lips, especially the upper, which is markedly so, and hangs like a curtain, while the duty of articulation devolves on the lower lip and tongue, more especially on the latter. He seems to have a difficulty in enunciating the letters "r" and "s," placing a long slur on the former, and substituting "th" for the latter, as in the words "form," "arm," "Leslie," "blessed," &c. Drawl most marked on second syllables.

The tongue exhibited a general fibrillar tremor, the tip directed slightly to left side; after being protruded for a short time it is retracted with a jerk, even when he is requested to keep it out. The pupils are unequal; left largest, and of normal size, but somewhat sluggish; right appears permanently contracted.

The finer movements of manipulation seems to be affected, as there is some fumbling in buttoning up his clothes. His handwriting is fair, but very tremulous and irregular. Each stroke of the pen seems a work of some effort, and every letter has to be made by itself, and then joined on subsequently to the preceding one.

Sensibility to temperature was tested by the hot and cold sponge, and found normal. As regards the tactile sensibility, the æsthesiometer proved that he could distinguish the two points as such, at a distance of two thirds of an inch, over the greater part of the body, except on dorsum of right foot, up as far as the ankle, where the limit of confusion was at one inch. By the electro-motor test, sensibility appears pretty normal in the upper extremities. When one handle of the battery was carried down the spine, the other being held over the seat of the inferior cervical ganglion of sympathetic, as soon as it reached the lower dorsal and lumbar regions, the patient began to shrink and complain of the severe pain caused him, especially in the lower lumbar region.

He is apathetic; sits by himself in a corner, moody and unsociable. No exalted notions; rather depressed than the opposite, yet there is the *bien être* of General Paresis, and when questioned as to his bodily health, looks contented and happy for the moment, and expresses his condition as being "fine," "first-rate," &c. Is long in replying to a question, and then frequently only in monosyllables. Memory, as

regards time and dates, very defective; thought he had been here a month on the fourth day of admission, but as regards events connected with himself, it is good.

He is tractable. Habits cleanly; sometimes useful about the house. Seldom, however, on his feet, except when asked to walk across the room or when sent on a message.

As an illustration of the advanced stage of this disease, the writer may give the following case, which came under his notice at the Hull Borough Asylum:

The patient, a tailor, was admitted in a state of Mania in November, 1867, the entry being made by the Superintendent, Mr Casson, at the time, "Wild staring eyes; pupils much contracted; maniacal expression of countenance." The symptoms were of only about fourteen days' duration, during which time he had done all sorts of foolish things, ordered carriages, dinners at hotels, and numberless expensive articles. He had also been very restless, and did not sleep much at night. In the morning he would get up very early, go out, and call people up to have breakfast with them. Two days afterwards he was very wild and excited, and talked incessantly. In about a fortnight he became quieter, though his language was maladictory and blasphemous. Shortly after it was found he had decided hallucinations, such as seeing Christ, the devil, &c. For some months he remained in a doubtful condition, occasionally maniacal, but, on the whole, more composed, and in the summer of 1870 appeared to be in a very hopeful state, both in mind and body, and commenced work in the tailor's shop. He then became decidedly stout and very indolent, but after a while he improved in all respects. This, however, was but the lull which preceded the appearance of a symptom only too significant of the succeeding mental disorder. When at work his hands became tremulous. This was quickly followed by slowness of speech and a disinclination to enter into conversation. Moreover, there was now some loss of power over the sphincters. Notwithstanding the increasing gravity of these symptoms, half a year afterwards signs of amendment were manifest, and his habits, which had been dirty, became cleanly, and he was able to do a little tailoring again. To a superficial observer he might have seemed well. However, in three or four months he became talkative, and as to his physical condition he is described as "in the bloated state of General Paralysis." Four months later he was quite incoherent—in a perfectly hopeless state. About two years and three quarters after the first decided signs of General Paralysis, he was confined to his bed, never speaking unless when addressed, and then only in monosyllables. Bed-sores succeeded; a water bed was made use of; he was perfectly helpless, and could not speak, yet after some months had elapsed, his bodily power so far improved that he was able to leave his bed and sit up dressed in the ward. When the writer saw him he could answer questions, chiefly in monosyllables, in a very slow unintelligent manner. His pupils were sluggish; equal. The tongue deviated a little to the right, and was rather tremulous. Fingers of right hand flexed on palm. Could walk pretty quickly across the room.

Ætiology.—Differences of opinion still exist as to the most frequent cause of this malady. It is certainly suggestive that, if we take two institutions, the York Retreat, and the Royal Naval Hospital, Yarmouth, which offer a complete contrast as to the habits of life of the patients admitted into them respec-

tively, we find that in the latter, General Paralysis is of exceedingly frequent occurrence, and in the former, it is very uncommon. Now, if we ask ourselves in what respect these habits differ, there can be no hesitation in replying that it is in regard to a regular and temperate life. In the community from which the Retreat derives its inmates, a large number pursue the even tenor of their way without much excitement, and are very temperate in their habits. The difference in the annual consumption of intoxicating liquors in the two classes would be something enormous. The contrast would also be as great in regard to other forms of excess manifested by dissipated habits. The conclusion which this comparison suggests is confirmed by a statement made to the writer by Dr Macleod, that a large number of cases coming under his care at Yarmouth are due to irregular habits of life—in not a few to debauchery on landing after a voyage.

Then, again, if we contrast the class for whom the Retreat is established with the inmates of county and borough asylums, we shall find that whilst in the former, intemperance and poverty are of infrequent occurrence—indeed, as regards poverty scarcely known—they are prominent features in the antecedent histories of the latter class. At the time when there was no, or only a doubtful case of General Paralysis at the Retreat, the writer found at least eight in the Hull Borough Asylum, containing at that time almost exactly the same number of patients. These the Superintendent, the late Mr Casson, allowed him to examine, and of seven he took careful notes and ascertained, as far as possible, their past histories. As regards causes, he found that of these seven, three might be fairly traced to intemperance. Of one, a man of about forty, his wife said he had been "a hard drinker." This, of course, led to quarrelling and to trouble in his situation, and he had to go to the workhouse. Of another, a tailor, aged forty-three, the statement was made by a woman who lived with him since the death of his wife two years before, that he had been "a very heavy drinker, more particularly during the lifetime of his wife, who was a hard drinker also." She said she had discouraged his taking so much, but that a short time before this attack he had "a heavy drinking bout." In the third case, a young man of twenty-eight, and formerly steady, was sent on recruiting service to Sheffield, where he married a worthless woman, who subsequently deserted him. This so preyed on his mind that he took to drink, and during

the twelve months previous to his admission "drank very heavily indeed." In a fourth patient, a labourer, there was no evidence given of drink, but only of want. The causes assigned were "a bad wife, who had left him; want of work, and consequently insufficient food." The records of the county asylums of England would supply but too many parallel instances to the foregoing. Drink causing poverty, and poverty leading to drink (the former in by far the largest proportion of cases), are the familiar antecedents of an attack of General Paralysis. And the absence, for the most part, of these antecedents in regard to the patients admitted into the Retreat, coupled with the comparative freedom from this particular form of Insanity, can hardly be an accidental circumstance, but one which justifies our accounting for the prevalence of General Paralysis by the influence of alcoholic and sexual excesses combined in many instances with insufficient nourishment.

In the other cases the alleged causes were, in one instance, a fall on the back of the head, in another, loss of property, and in the third "a stroke."

In the statistics collected by Dr Burman respecting the cases of General Paralysis admitted into the Devon Asylum, of 103 cases in which the cause was ascertained, although intemperance forms the largest single cause, the moral causes slightly exceed the physical, and Dr Burman thinks these statistics confirm Austin's opinion that "an acutely painful impression on the moral sensibility is the usual cause of General Paralysis."

In 12 out of the 103 cases, the cause was referable to falls and injuries to the head, and in 7 to *coup de soleil.*

As a circumstance of interest taken in connection with the class of persons who go to the Royal Naval Hospital at Yarmouth, it may be stated that, according to Dr Burman, "the occupations which next in frequency to that of labourers, recruited the ranks of general paralytics in the Devon County Asylum, were those of soldiers and marines or mariners, one seventh of the whole number of males being of one or other of these occupations," thus confirming Calmeil's statement that "de toutes les professions, celle des armes exerce l'influence la moins douteuse et la plus funeste."

Prognosis.—(See p. 135.) Recoveries, or rather remissions for months and even years, are not very unusual, but a relapse may be predicted as almost certain. Although, however, usually incurable, cases do occur which raise a strong hope

that the recovery will be permanent. Dr Macleod has, in his large experience of General Paralysis, discharged several apparently recovered.

The first case was admitted on 14th September, 1869, and was marked, not only by the usual delusions, but also by twitches of facial muscles, tremor of upper lip, thick speech, and weakness of the knees. He was also violent and destructive. Under good diet, rest, and Syr. Quin. et Ferri Phos. and Strychnia he gradually calmed down, became quite rational, and lost all abnormal symptoms, except the tremor of lip, and a slight thickness of speech. He was ill for three months, and was kept under observation for six months before he was discharged.

August, 1878. He is still alive and in good health, drawing his pension regularly.

In the second case, the patient, æt. 32, was admitted in March, 1870, and had a history of being very restless and talkative on board his ship, boasting of his vast riches and wonderful adventures. His account of his age and previous mode of life was incoherent and contradictory. In the hospital to which he was sent, the report states that he was, by night, singing and shouting and very destructive, and on the 5th October he had a paroxysm of maniacal violence. On admission he laboured under numerous exalted delusions, such as that he was king of the world, that his brothers were kings, and that he possessed untold riches, millions in every bank, and that he had power to do whatever he chose to undertake. His speech was thick and articulation at times difficult, his gait very unsteady, his habits dirty; the temperature 98° in the morning, and 99° in the evening.

Given such symptoms as the above, every medical psychologist's prognosis would be to the last degree unfavorable; yet, after being under treatment until March, 1871, he began to improve, the exalted delusions entirely passing away. The thickness of speech and difficulty of articulation, however, remained, although in a less degree, and it was also observed that if he tried to lift anything heavy his legs failed him, and this want of power he acknowledged. He remained under observation until March, 1872, when he was discharged, and at the time Dr Macleod gave us the foregoing particulars (October, 1872), was well and providing for himself and family.

June, 1873. Condition satisfactory.

August, 1878. Drew his pension until some time in 1875, when he was lost sight of, having either died or left the country.

Another of Dr Macleod's patients was admitted June 27th, 1876, labouring under restlessness, debility, tremor of lips and facial muscles, speech thick and hesitating, various exalted delusions. On July 3rd he had a severe epileptiform fit, followed by twitching which continued at intervals for three days. On recovery from the fit he was found to have lost the use of his right side, but had become quieter and more rational. From this time he steadily improved in body and mind. By May, 1877, he had improved both in gait and speech, and was free from delusion. This continued, and he was discharged November 29th, 1877, the only symptom of disease being slight tremor of speech. He remains seemingly well (September 1st,

1878). Time alone can show whether this patient really recovers. The remissions in General Paralysis are certainly among the remarkable features of this remarkable disease.

Of the 341 cases of patients admitted at the Devon Asylum tabulated by Dr Burman, 12 were entered as discharged, "recovered." Two returned and died. Of the after history of 9 nothing seems to be known. One still remaining out is the case referred to by Dr Bucknill in his 'Annual Report,' 1862, where he states that "this was the only case he had observed in which there was no affection of the mental functions, and the only case he had known recover."

Of 924 deaths at the Somerset Asylum, Dr Boyd found 18 per cent. to be cases of General Paralysis. Dr Burman found the ratio to be 18½ per cent. for thirty-six asylums in Great Britain in 1869, and of the cases dying at the Devon Asylum, 19·45 per cent. (Op. cit.)

The average duration of the disease is generally estimated at about thirteen months, but we think this is quite too low. Patients rarely live more than three years after the development of well-marked symptoms. That they do live much longer the following cases show:

The writer saw a case at the Royal Naval Hospital at Yarmouth in 1872 under Dr Macleod's care, the symptoms having first manifested themselves upwards of *eight years* before. The patient lay on a water bed, perfectly helpless, extremely emaciated, and unable to articulate a word. Age 37. He could move his arms freely, but not his legs, and could drag them up towards him when the soles of his feet were tickled. Appetite voracious. There seemed no evidence of any mind being left, but Dr Macleod said he believed he knew his attendant, who had waited upon him three years, and that there were more signs of intelligence than six months ago. A glance at the past history of this case furnished by Dr Macleod well illustrates the most important features of this form of mental disease. When serving as engineer on the Mediterranean Station in 1864 he had decided delusions with occasional convulsive attacks, probably epileptic; he was, after a short time, sent to England, and was soon able to attend to light duties at Portsmouth. In the following year he proceeded to China in a man-of-war, but completely broke down before he reached the Cape of Good Hope, giving expression to delusions of an exalted character about his riches and the amount of money in the bank. In December, 1865, he was invalided at the Royal Naval Hospital, Cape of Good Hope, for "Dementia and General Paralysis," and arrived in England, May, 1866. In the course of a month he was sent to the Royal Naval Hospital, Yarmouth, when his symptoms were as follows:—Too demented to give any account of himself. Memory completely gone. Much tremor of upper lip on attempting to speak; speech thick; articulation difficult. Tremor of tongue, which he protruded with great difficulty. Very unsteady on his legs. Pupils acted regularly. Appetite very good; considerable emaciation. Rests well at night. Habits cleanly. By the end of the year he had become stout, weighing 16 st. As he increased in size, he evidently became even

more demented; his appetite diminished. Very difficult sometimes to understand what he intended to say. Motor power in lower extremities less. In January, 1867, he suffered from epileptiform convulsions, after which it was observed that the motor power had considerably diminished, and he could no longer stand to wash himself, without assistance. He went on till the end of the year quiet and inoffensive, by day, sitting in the mess-room in an easy chair, or when the weather was warm, he was removed to the airing ground. He became wet and dirty in his habits. Weighed 14 st. A note in 1868 says, "He is now confined to bed, as when sitting up he was constantly attempting to walk and was in danger of injury from falls." In May he was found to weigh only 11 st. Refused food, and required stomach-pump. Excited and noisy, saying as well as he could, that "he was King of England, and how dare they retain him in bed," and attempted to talk about dollars, money, and the bank. By the end of the year he was helpless and extremely emaciated. In 1869 he still talked about his riches. In 1870 the note occurs that, although unable to speak or walk, he nevertheless shouts and howls, and in 1871 that he requires constant attention to keep him clean and dry. Thighs bent upon abdomen, and legs bent under the thighs. Epileptiform convulsions occasionally occur.

June 14th, 1873.—After an attack of epileptiform convulsions his swallowing became very defective; on the 18th he was free from twitches, and his swallowing had improved. June 27th.—Very destructive, tearing his bedding; this passed off after a dose of castor oil. Aug. 3rd, 4th, 5th, and 6th.—Twitches in different parts; swallowing so much affected that he can only take liquids. Aug. 7th.—No twitches, is again able to swallow solid food; throughout the rest of the year he was occasionally attacked with twitches, during which attacks, and for a short time afterwards he swallowed with great difficulty; mind a perfect blank.

1874.—No apparent change, except that the swallowing gradually became more difficult, and he could only swallow fluid food.

1875.—From Jan. 1st the twitches became very troublesome, and he rapidly lost his remaining strength, dying Jan. 16th.

This patient was ten years under the disease, and seven years confined to bed; during most of that period he passed all his excretions in bed. By constant attention to cleanliness, it was found possible to keep him quite free from bed-sores.

In the same dormitory, the writer saw a patient, (G. H.), a boatswain, æt. 40, who was admitted *six* years before, with decided symptoms of General Paralysis and Dementia.

In 1874 he was permanently confined to bed, as he had become so weak on his legs and dirty in his habits. Epileptiform convulsions come on frequently, and during 1875 and up to the July, 21st, 1876, the day of his death, he was supported by fluid nourishment, given very slowly on account of the increased difficulty of swallowing.

We may add to the foregoing that, out of 271 cases admitted into the Devon Asylum, only 7 lived more than four years after admission. In 38 cases the total duration of the disease was ascertained, and the average proved to be one year and nine months. With the female patients the duration was one year longer than with the male patients ('West Riding Asylum Reports.' vol. i, p. 139).*

* See also the Chapters on Diagnosis and Pathology. Of the large mass of literature bearing on this malady we may refer the reader to the following, in addition to the works of Haslam, Delaye, Bayle, Calmeil, Perchappe, &c., mentioned in the Chapter on Pathology:—'Traité pratique des Maladies nerveuses,' par Sandras, 1851. "Paralysie progressive," art. in the 'Dict. des dict. de Méd.,' par Brierre de Boismont, 1851. 'Recherches sur la Folie paralytique,' par Jules Falret, 1853.

Insanity following apoplexy, and usually accompanied with ordinary paralysis.

This section comprises the division made by the International Congress of Alienists in 1867 (see p. 45) to include mental disease induced "by organic lesions of the brain, presenting as almost constant symptoms hemiplegic occurrences more or less prolonged," and to exclude general paralysis and senile dementia. The mental condition was called "organic dementia," in the classification above referred to.

As interesting from an historical point of view, it may be stated that Burrows in his Commentaries (1828) made the observation that no malady is so intimately connected with mental derangement as apoplexy and "the extension of the apoplectic attack," paralysis, but he added, "its affinity is recognised in the twofold light of cause and effect." He says that comparatively few cases originate in apoplexy, and points out that this form of apoplexy is essentially different from that which terminates the life of the insane. "Sanguineous apoplexy is the species commonly originating Insanity; and those in whom the sanguineous apoplectic diathesis prevails may be considered as almost equally possessing the maniacal diathesis; it is difficult to pronounce which attack is most threatened. . . . . If the attacks of apoplexy are slight and often renewed, the mind is very prone to extreme irritation and aberration; when stronger and a partial recovery takes place, Insanity is sometimes temporarily, sometimes permanently, developed." With sanguineous apoplexy as a cause, he contrasts serous apoplexy as an effect and termination of Insanity. Burrows speaks of "the peculiar species of paralysis which Bayle describes" (General Paralysis) as quite distinct from the cases of Insanity originating in apoplexy to which he refers.

The usual form for mental disease to assume when it follows apoplexy involving injury to the motor centres as indicated by

Dr Wilks in 'Guy's Hospital Reports,' 1866, and in 'Journal of Mental Science,' where articles by Sankey, Clarke, Westphal, Meschede, &c., will be found. 'Recherches sur la Paralysie générale progressive,' par M. Doutrebente, 1870. "De la Paralysie générale par Propagation," par Dr. Ach. Foville, 'Annal. Méd. Psych.,' Janvier, 1873. The late Dr Bell, of America, writing in 1844, said, it was only within three years that patients had been admitted into the McLean Asylum labouring under General Paralysis. On looking over the register of past years he could not find a case, the description of which resembled the "manifestations so graphically described by many English and Continental authors."

hemiplegia, &c., is dementia. A man, past middle age, has an apopletic attack followed by paralysis. His mental health does not immediately suffer, beyond an impairment of memory; there may also be aphasia. Before long, however, some weakening of the mental powers is observed; unusual irritability is evinced; odd fancies or even delusions manifest themselves for a time, but are after a while merged into the demented condition which sooner or later supervenes. More cases having this common history are to be found in hospitals, workhouses, and among the better classes in private homes, than in asylums.

In the appendix to Dr Skae's 'Annual Report' for 1871 is recorded the death of a female patient who some years previously had a paralytic seizure.

After a period of good health, Dr Wright states that Insanity came on gradually. The symptoms were general failure of the mental powers, manifested by a blunting of the perceptions, impairment of memory, general nervous restlessness, and mental irritability, and, finally, another attack of paralysis with aphasia. A *post-mortem* revealed softening of the anterior part of the right frontal lobe, which Professor Turner regarded as of long standing.

We have seen a hemiplegic patient at Bethlem Hospital, under Dr Williams, the report of whose case by Dr Savage, in the 'Journal of Mental Science,' January 1878, we avail ourselves of in the following summary.

A. A—, æt. 59, sober. Father and mother died of apoplexy. Patient was seized in January, 1875, with apoplexy, right hemiplegia, and complete aphasia. Recovered in six weeks sufficiently to resume professional work. Had a slight attack, chiefly convulsive, in the following June, and a very severe fit in February 1876, in which he vomited and was again convulsed. Was in bed several weeks, and then began slowly to regain strength. He was markedly weaker in mind, got about again, but was no longer equal to his duties. In October, had another extremely severe fit, and was speechless. During the next six months he improved greatly in general health, and was generally in a placid, weak-minded condition. He was, however, irascible, and at times noisy, and as he regained power was more difficult to manage, and became restless. Admitted, May 1877, the certificates stating him to be weak-minded, at times violent, at others tearful and emotional. He would shake hands with perfect strangers as if he knew them. Habits clean. Always a smile on his face. He only said "yes," or "yes dear," if questioned, and did not seem to understand much that was said to him. He would listen as if he understood, but he could never be got to do things by way of command. Forgot an object he was asked to fetch before he got to it. Ophthalmoscope revealed pallor of both discs, the small vessels being in strong relief. In left eye, the large vessels were surrounded with lymph or connective tissue here and there. Sphygmogram showed high tension, but rather of a *rigid* than a *full* vessel. For six weeks he improved greatly in general appearance, and seemed cheerful. He learnt no new words, and was weak-minded as before. Was friendly with anyone. In July he had a fit which affected his limbs generally, and he could not articulate at all for an hour after, but was soon himself

again. In September he was found on his left side, vomiting and unconscious, with left hemiplegia, his right fore-arm waving to and fro. Sensibility of right, but not of left conjunctiva. Reflex action of right foot, but not of left. Pupils small and equal. Pulse 120. Temp. 97°. Next day he was unconscious and quite hemiplegic. Died in 48 hours. *Post-mortem.* Dura mater adherent throughout; excess of sub-arachnoid fluid; convolutions flattened on both sides. Blood effused on surface of right side of cerebellum. Pia mater and arachnoid easily separable from brain, left half of brain most wasted. Dr Savage considers the first attack of aphasia which was transient, to have been due to pressure, while in the attack which caused permanent aphasia, a large clot destroyed an important part of the frontal convolutions, rather cutting off the connection with the "island of Reil," than injuring it; the dementia being the result rather of general degeneration than of a spreading of inflammatory processes from local centres of degeneration.

There are cases again with a distinct cerebral attack, accompanied by loss of consciousness, which are very different both in their physical and mental symptoms. Such a case as the following is suggestive of syphilis, but as no syphilitic history could be made out, it is given here.

We examined the patient in the Bootham Asylum, York, and are indebted to Dr Needham for allowing us to consult the case-book and make use of the particulars entered there regarding his history and symptoms.

The patient, a clergyman, when officiating in the pulpit, had "a fit;" he lost his consciousness, and from that time the pupil of the left eye became widely dilated, and ptosis of the left eyelid has remained. He was hereditarily predisposed to mental disease. Decided symptoms of Insanity (irritability, and loss of sleep) did not declare themselves until more than five years afterwards. His friends, however, distinctly connected the seizure and the mental disorder. He manifested some tendency to suicide, and on admission to the asylum in 1862 (æt. 40) he was in a state of partial dementia with delusions. He would sometimes refuse to answer questions; at other times he would be cheerful and loquacious, and reply coherently although childishly. The sensory phenomena were striking. He constantly affirmed that he was dead, that he had no legs, arms, or body, that he only weighed six pounds, and was but two years of age, that he had no sleep for two years, and that he could not either speak or move. Yet, if questioned respecting his former life he would give a correct account of the various changes which had befallen him. His memory of former events seemed to be unimpaired, but for recent incidents none whatever, not being able to recollect how or when or by whom he had been brought to York. Volition was almost *nil.* He could be led and persuaded like a feeble child. In early life he was of strong mind and body, and at Cambridge he graduated with high honours. His general appearance is described as one indicating serious organic disease of the brain. There was no hemiplegia, but there was a general loss of muscular power. He was wet and dirty in his habits.

He improved remarkably under good care and treatment, and had considerable liberty granted him in his walks outside the asylum—a privilege which he, however, abused by coming home drunk. He was always a free liver.

When seen by the writer (ten years after admission) the prominent symptom was paralysis of the third nerve, as indicated by ptosis of the left eyelid and extreme

dilatation of left pupil. He could see with both eyes, but imperfectly with the left. Tongue not tremulous (appeared on admission to be so) or devious. He spoke well and walked fairly. Beyond a narrow range of ideas there was nothing very striking elicited in conversation.

September, 1878.—In the same condition, physically and mentally.

Epileptic Insanity.

We have had repeated occasion to refer in the course of this work to states of Insanity complicated with epilepsy, especially in the sections on Moral Insanity and Homicidal Mania. See pp. 252, 259—61. The subtle influence of epilepsy or rather of that condition of the nervous system which gives rise alike to epileptic seizures and certain mental symptoms, if strikingly shown in the loss of memory, is perhaps still more remarkably manifested in the change which takes place in the moral character, either permanently or during a brief period of mental epilepsy with or without convulsive seizure. In a large number of cases, the actual or comparative sanity of the patient for considerable intervals of time, the freedom from irascibility, passion, or violence, when removed from circumstances calculated to irritate, render it difficult to place such persons under restraint until an act has been committed which necessitates sequestration.

It is to be observed that very frequently the presence of Epileptic Insanity is indicated, not by epileptic fits, but by the character of the mental disturbance, the paroxysmal gust of passion, the blind fury, without an adequate cause. Although, however, there are not ordinary epileptic fits, there are certain physical signs subsequently referred to.

As experience shows that the mere epileptic vertigo or *petit mal* is quite as dangerous to the integrity of the brain as the *grand mal* (and even more so), the very cases in which the most serious consequences follow, are often those in which it is the most difficult to prove that disease sufficiently accounted for the act.

It is customary to speak of a Masked Epilepsy, the "Epilepsie larvée" of M. Jules Falret,* and (subsequently to him) Morel,†

* "L'invasion de ces états subite, la perte de la memoire les suit toujours; les actes sont instantanés, d'une violence exceptionelle; les hallucinations sont terrifiantes, et à tous les accès, c'est toujours la même succession de phénomènes." ('Annales,' Janvier, 1873).

† "Les états d'epilepsie larvée sont accompagnés de symptômes particuliers, parmi

marked by eccentric acts or a sudden paroxysm of violence without a distinct epileptic seizure.

In the following case, unmistakable epileptic fits occurred at one period of the patient's life, while at another maniacal symptoms took their place.

In the 'St Bartholomew's Hospital Reports' (1870), Dr Thorne reports a case of epilepsy marked by ordinary convulsive attacks, but interesting from there being also from time to time attacks of mental excitement, which appeared to take their place. Though a temperate and well-conducted man, he would in these states seize a knife and declare that he would kill his children. After the paroxysm terminated, he would be quite oblivious of what had occurred. At another time he would steal. "On one occasion he was observed to be suffering from considerable mental dulness, and on his person were found parcels of violet and other scented powders, which he could have had no object in purchasing, and of which he declared most emphatically that he knew absolutely nothing."

Dr Hughlings Jackson thinks it probable that when mental symptoms appear to take the place of a fit, there is a transitory epileptic paroxysm, although admitting that occasionally no signs of a prior fit are *discoverable*. "All kinds of doings after epileptic fits, from slight vagaries to homicidal actions, have one common character—they are *automatic*; they are done unconsciously and the patient is irresponsible. Hence I use the term *mental automatism* . . . I believe there is in such cases, during the paroxysm, an internal discharge, too slight to cause obvious external effects, but strong enough to put out of use, for a time, more or less of the highest nervous centres . . . The automatism in these cases is not, I think, ever epileptic, but always post-epileptic." ('West Riding Medical Reports,' 1875.) Many cases are given showing that elaborate and highly compound actions may be performed when a patient is unconscious, and their bearing on criminal acts is clearly pointed out. It must not be supposed, however, that the patient may not afterwards be aware that he has been under a delusion or impulse, and deeply regret what he has said or done. There are, no doubt, in different cases, different degrees of recollection. Thus an epileptic, at the Wakefield Asylum, knowing well how he had acted after a fit, told us that he was very sorry for having abused Dr Major. When admitted, he mani-

lesquels se trouvent au début, l'instabilité excessive du caractère, la mobilité; plus tard les transformations du délire, les actes instantanés, se reproduisant avec une véritable périodicité. J'ai signalé aussi les bruits éclatants que les malades entendent et qui ne ressemblent en rien aux bruits dont se plaignent les délirants persécutés; il y a là quelque chose de tout spécial" (Morel, idem).

fested absolutely no mental symptoms, but the conclusion was formed, based on his history and his own admissions, that at the time of his fits he would probably manifest violence. One day he had a mild fit while conversing with a fellow patient and friend, a rational and truthful patient, who stated that he threw up his eyes and was slightly convulsed, but very soon regained consciousness and did not fall. *Immediately* on regaining consciousness he swore frightfully at his friend, accusing him of assaulting him, &c. The next day he had two fits, and then violently assaulted an attendant without the slightest cause, and soon afterwards, when seen by Dr Major, heaped every sort of abuse upon him, accusing him of blowing dust into his eye, &c. A day or two afterwards he came to himself, was conscious of his hallucinations and apologised for his violence and rudeness.

There may, as in other forms of Insanity, be a motive mixed up with an insane condition. "The premeditation, the calculations, and the motives of revenge which in some rare cases control the accomplishment of the misdeeds of Epileptics, might lead magistrates to erroneous views" (Falret). The absurdity of supposing that motive and calculation imply necessarily free will or soundness of mind has been insisted upon by Echeverria as well.

The exalted religious sentiments in epileptics pointed out by Morel ('Traité des Maladies Mentales,' 1860, p. 701) have been recently studied by Dr Howden, the Superintendent of the Montrose Asylum ('Journal of Mental Science,' Jan., 1873) in a number of interesting cases displaying strong devotional feelings, in striking contrast with the homicidal propensities we have mainly referred to. We give the following (curtailed):

J. A—, æt. 13, a good-looking intelligent boy, who, though an epileptic from infancy, has none of the physiognomic characters of the disease. During his lucid intervals he is active and intelligent. After the fits he becomes excited, subject to delusions, and given to wander, and exhibits strong amorous propensities. On admission he told me he was Adam born again into the world. When questioned as to his previous life in the Garden of Eden, he replied that he had been so long dead that he could not be expected to recall particulars, but added that it was perfectly true that he had eaten the forbidden fruit, and when asked why he had done so he replied, "Its all very well to blame me, but you would have done just the same thing if you had been in my place." He pointed to a picture of a woman on the wall which he said was a portrait of Eve. He says he has been in Heaven, and describes what he saw there. He has been in the Asylum now for two years, has fits every two or three weeks, and on recovering from them he is dull and stupid; then he becomes possessed of some extravagant delusions, always of a religious nature. When ques-

tioned as to the ground of his belief, he generally says that it has been revealed to him, and that he feels it is true, pointing with his finger to his epigastrium.

Dr Orange has recorded in his 'Report' of Broadmoor, 1877, the case of a woman subject to epileptic seizures, more especially at and about the catamenial periods. She had violent and slight fits, but during the latter she scarcely lost consciousness. The circumstances of her act of wounding were referable to one of the more violent attacks. She rose up from her chair one morning with her baby in her arms and went to cut some bread for the elder child. Having got the knife in her hand for this purpose she had an epileptic seizure, and during the unconsciousness she cut her infant's hand clean off, and was found insensible by the neighbours. She had no recollection of the circumstances after getting possession of the knife. On two occasions when in these attacks, she had fallen into the fire, and once she had cut her own thumb.

A large number of cases in our Asylums have passed beyond the transient and delusional forms of Epileptic Insanity, and having gradually succumbed to mental deterioration, are examples of hopeless Dementia, subject to "fits" and attacks of maniacal excitement.

Dr Adam Addison, ("Clinical Notes regarding Epileptic Insanity," 'Journal of Mental Science,' April, 1866), states, that of 41 epileptic patients in the Montrose Asylum, 21 were, and 20 were not, paralysed. The mean internal heat of the body was 98·9; the highest being in those who had suffered from fits in the day. Of 32 cases examined, the pulse was of normal fulness and firmness in 23, and feeble in 9. In 50 cases, loss of consciousness was the first symptom in 39; 27 bit the tongue during fit; 30 uttered cry before fit; 48 fell during fit; 15 had fits during the night only, 35 both day and night; 3 did not have comatose symptoms. Of these, 13 were *always* irritable and vicious; 13 *before* the fit, 26 *after* the fit; and in 4 there was no mental change. Dr Addison found the urine greatly diminished when fits were severe and attended by mental excitement. The sp. gr. was high, with abundant lithates and diminution of chloride of sodium, urea, phosphoric and sulphuric acids.

Is an ordinary epileptic to be always regarded as irresponsible? No. If, however, it cannot be said that he is irresponsible, yet the fact of being subject to fits must form a very strong presumption in his favour.

Tardieu reports the case of a man who had smuggled goods to a large extent and was pursued by the custom house officers. He killed two of them. He was proved to be subject to epileptic fits. It must be admitted that in such a case the amount of a man's responsibility ought not to be rated so low as that of the man who is impelled during an epileptic seizure (however transient) to commit an unprovoked act of violence.

"The lawyer" as Echeverria forcibly says, "may persist in falling back in cases of Epileptic Insanity, upon the operations of a sane intelligence in order to judge the motives of a criminal act when committed by an epileptic; but for an alienist it is certain that the victim of a disease which takes away from him all control over himself, even when he remains capable of distinguishing between good and evil, cannot be held responsible for acts which he accomplishes without will, and in an automatic and therefore unconscious manner."

The following are sphygmographic tracings which Dr Thompson has published in the 'West Riding Asylum Reports,' vol. ii. They resemble those taken by Echeverria in the stage of coma and shortly after ('On Epilepsy,' 1870).

Fig.23 exhibits what "may be accepted as the type while the epileptic 'status' exists. . . attributable to a lax condition of the vessels."

Fig. 23.

Fig. 24 represents the tracing of the pulse of a man during a day on which the patient was seized with several fits.

Fig. 24.

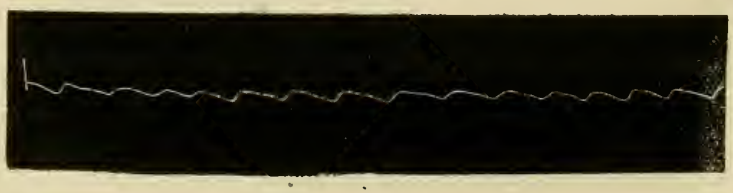
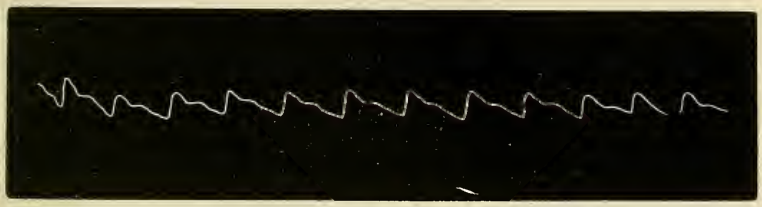


Fig. 25. With these may be contrasted the tracings obtained by Dr Thompson from a colleague in good health (op. cit., vol. i).

Fig. 25.



In a paper* read at the Paris International Congress, 1878, Dr Echeverria gave the results of observations on 267 cases of unquestionable Epileptic Insanity, forming part of 532 carefully observed cases of Epilepsy. He lays great stress upon nocturnal attacks and vertigo, the latter proving more injurious than any other symptom, violent convulsions being always less frequently accompanied by Insanity. He found that Insanity arising suddenly after the first attack in adults whose disorder could be traced to injuries to the head, intemperance, or syphilis, returned regularly at the end of other attacks. The association of paralysis with epilepsy was generally accompanied by marked intellectual change, with a progressive course, ending in Dementia. The most convenient classification was found to be into intermittent, remittent, and continuous, the first variety being characterised by fits exploding after intervals of more or less regular periods of sanity, the second by imperfect restoration of mental health between the paroxysms, the third by persistent mental disorder, not changed by the attacks. The mental condition following attacks was often marked by a state in which the patients spoke or acted in an apparently rational manner, but found themselves in a condition of unconsciousness, that is to say, without the slightest knowledge of what passed around them, in short, a paroxysm of Mental Epilepsy, after day or night fits, or again without any prelude of physical attacks.

The case of a young man is given, subject to *petit mal*, in consequence of a fall. One evening after an attack he left home, and went in a cabriolet which he found stopping before a house, to the grave of his father, a mile and a half from Washington, where he gathered flowers to convey to his mother, whom he invited to go for a drive. When she asked how he had obtained the carriage, he answered that he had found it

* For permission to use the manuscript after hearing it read at the Congress of Mental Medicine, the writer has to express his obligations to Dr Echeverria.

lost in the street. She ordered him to place the horse and carriage instantly in a coach-house, and seek their master. Instead of obeying, he appropriated them, and when the proprietor discovered them he pursued him as a thief. When before the magistrate next day he could give no account or explanation of his conduct; in fact it was obliterated from his memory. Some months after, when at New York, he left home after one of his seizures, and roving about as a vagabond on the quays, he met an agent who engaged him as a sailor on a vessel about to sail to London. The agreement was duly executed, and after having left with this agent nearly all his money, &c., he embarked. The captain was not long in discovering he was no marine, and finding him very odd, forbade him to mount the masts, and assigned him some light work. Three or four days after, the patient awoke out of this state of unconsciousness, and expressed the greatest astonishment on finding himself on board a vessel, and was unable to give any account of what had occurred. The mother discovered through the police the departure of her son, and took the measures necessary to place him in an asylum. There he had many similar attacks, preceded by nocturnal attacks and *petit mal*, until then unrecognised. In the intervals he was very gentle and reasonable, but during the attacks he was vicious, always in motion, and disposed to be violent.

Dr Echeverria has yet to find a true case of Epilepsy without unconsciousness. It is more than patent in the stupor which Delasiauve regards as the characteristic of the disease. The intermittent form occurs ordinarily, but not necessarily, with suddenness of the convulsions or is the *avant courier*. Sometimes the convulsions arise in the midst of the attack of Insanity as an intercurrent phenomenon, just as they do in Alcoholic Insanity. The intermittent mental attack may be developed spontaneously, without connection with the somatic attacks. The maniacal attack which accompanies the fit breaks out without an intermediate state of sleep or coma, is rarely dissipated in less than two or three hours, and may again appear one, two, or three days after the fit; nor is it rare for intermittent Mental Epilepsy to reach its last stage without the least symptom of spasm. What Echeverria calls intermittent Mental Epilepsy is of course the same as the Masked Epilepsy of Morel and Falret already described, but his cases do not bear out the statement of the former, that in a shorter or longer time it ends in unmistakable epileptic fits as ordinarily understood, for many never had obvious convulsions at all to the end, when they often died of cerebral congestion with profound coma. The instantaneous acts of violence which usually mark such non-convulsive cases are thus, notwithstanding the absence of convulsion, transferred from an isolated form of mental disorder to the category of epileptic affections, the proof of this lying in the patient's antecedents and certain physical signs, always remembering that the greater the epileptic excitement

and incoherence, the less likely is it that there will be dangerous impulses or violence springing from hallucinations and morbid sensations which so often accompany mild and apparently inoffensive forms of Epilepsy.

The important rôle played by hallucinations in Epileptic Insanity is shown by the fact that they were detected in 86 per cent. of the 267 cases; namely, auditory 62 per cent.; sight and hearing 42 per cent.; smell 6 per cent. Lastly, 70 per cent. showed some troubles of general sensibility; anæsthesia, hyperæsthesia, &c., the false sensations taking usually the most terrible form. Athough hallucinations of hearing and sight are so frequent, it does not appear that patients suffer most from them, for they suffer an implacable torture from the state of their general sensibility, "in all the skin," as one patient described it, who struck the walls with his fists, and broke the panels of the door. It is most important to insist with Brierre de Boismont upon the influence of hallucinations in Epileptic Insanity, because they often lead to violent deeds.

The symptoms on which most stress is laid are, irascibility, identity of character of the mental attacks in question, unconsciousness of acts performed, disordered cerebral circulation, vertigo with perspiration of the head, epistaxis during or after the paroxysms; the morbid activity of the cervical sympathetic (to which Echeverria attaches much importance) being shown by lividity, injection of the conjunctiva, dilatation of the pupils, and a mass of whitish secretion in the palpebral angles, these symptoms being associated with a look of astonishment and hebetude. There is alternate dilatation and contraction of the pupils, the eyes widely opened when the patient becomes tumultuous, just as happens after attacks of *petit* or *grand mal*, lasting for about a minute. This epileptic pupil is regarded as betraying the doubtful or masked forms of Epilepsy, and cannot be feigned. Another symptom of value when associated with the others is slowness of respiration, the more marked the shorter the interval between the attacks. The temperature of epileptics, especially insane epileptics, was, in the cases on which these observations were based, generally below the normal one, in the interval of the fits, increasing always at their approach, along with acceleration and dicrotism of the pulse.

Again, there was the period of profoundly heavy sleep of several hours, establishing the transition from insanity to sanity after Mental Epilepsy, as well as after the attacks of remittent

and continuous Epilepsy, a sleep often mistaken for the sleep of drunkenness; the more so from the epileptic usually recovering his consciousness quickly after waking. The result of many cases showed that Legrand du Saulle is too absolute in his statement that this sleep occurs only in those cases in which the patient had been previously intoxicated. In some cases the repetition of words and phrases, called by Echeverria "the Epileptic Echo," was a marked phenomenon, and is often strikingly shown in composition. In three criminals, Echeverria diagnosed Epilepsy, unsuspected at the time, but afterwards confirmed by subsequent observations at Auburn.

The remittent and continuous forms of Epilepsy are usually marked by Dementia or symptoms resembling General Paralysis, and do not therefore give rise to difference of opinion. In the last-mentioned variety there are many exalted delusions, the main feature being confusion of thought and incapacity of action, rather than incoherence and entire inability to manage affairs.

In the 'Journal of Mental Science,' October 1878, Dr Yellowlees has recorded the particulars of a case of "Homicide by a Somnambulist" (see very similar cases p. 266) which is closely allied if not identical with nocturnal Epilepsy. His mother died in an epileptic fit. Her father also died in "a fit." The patient's maternal aunt and her son were both insane and a brother died in convulsions in infancy.

On Epileptic Insanity, see "D'une Forme mal décrite de Délire consecutif à l'Epilepsie (*stupidité épileptique*) par Delasiauve," in the 'Annales,' 1852, p. 491; 'Du Délire Épileptique,' by Hanshalter, 1853; Flemming's 'Psychosen,' p. 118; Delasiauve's 'Traité de l' Epilepsie,' 1854; Trousseau, 'Bull. de l'Acad. de Méd.,' t. xxvi, 1860-61; Falret, 'De l'état mental des Épileptiques, Arch. gén. de Méd.,' December, 1860, &c.; Morel, 'D'une forme de délire, suite d'une surexcitation nerveuse se rettachant à une varieté non encore décrite de l'Épilepsie larvée,' 1860; and especially Arthaud, "De l'état mentale des épileptiques au point de vue medico-legal" ('Gaz. Méd. de Lyons,' 1867); "Discussion sur l'épilepsie larvée," 'Annales,' Janvier and Mars, 1873; Echeverria "On Epileptic Insanity, and Violence and Unconscious States of Epileptics, in their relation to Medical Jurisprudence," 'Amer. Jour. of Insanity,' 1873; Baillarger, 'The responsibility of Epileptics;' the 'Med. Critic and Psych. Journ.,' vol. i; Legrand du Saulle, 'La Folie devant les Tribunaux;' Castelnau on the 'Relations of Epilepsy to Mental Alienation;' Tardieu, 'Etude Medico-legale sur la Folie;' Dagonet, 'Des Impulsions dans la Folie;' Dr W. A. F. Browne, 'Epileptics, their mental condition,' 'Journal of Mental Science,' Oct., 1865; Dr Hughlings Jackson on 'Temporary Mental Disorders after Epileptic Paroxysms,' and 'Epilepsy, and the after effects of Epileptic Discharges,' 'West Riding Asylum Reports,' 1875—76; Dr Weiss on 'Psychic Epilepsy,' 'Allgemeine Zeitschrift für Psychiatrie,' 1878.

Insanity from Old Age.

Senile Insanity may assume in the first instance the form of Mania or Melancholia, but ultimately ends in Dementia, for description of which see "Senile Dementia," p. 190.

We may also refer the reader to an article by Dr Anstie in the 'Journal of Mental Science' "On certain Nervous Affections of Old Persons" as having an important bearing on the Insanity of old age. In this article he observes that frequently allied with, but occasionally independent of insomnia and muscular restlessness is a peculiar state of mental irritability of the aged. "I am not now speaking of patients in whom there is mental alienation amounting to Senile Dementia. Far short of this, there is a phase of mental change in the aged, which is sometimes inexpressibly trying to the patient himself, and still more to all those who are brought into contact with him. It may be said to consist in a peculiar perversity, a tendency to offer vexatious and frivolous delay and opposition to everything which is suggested by others, however important the occasion. This is the typical character of the mental state; but in truth it shades off by imperceptible degrees into the form of Senile Dementia, with occasional or permanent delusions. They are just that sort of folk who insist on making perverse and unreasonable alterations in their wills, when these had been settled long before in a just and convenient manner, or who quarrel in their last days upon some frivolous pretext with the friend of a lifetime." (April, 1870.)

SECOND DIVISION.—DEUTERO-PATHIC INSANITY.

Insanity from Puberty. Pubescent Insanity.

It is not surprising that so great a revolution of the system as that which occurs at puberty should exert a great influence upon the nervous centres, and should be attended by serious risk to their integrity. As a matter of fact, however, we know that our Asylums do not admit any considerable number of cases (we refer now to the male sex) at the age of puberty. The

explanation is, that the abnormal mental condition which originates in the evolution of the reproductive system at pubescence, is not usually manifested in a way which brings a youth to an asylum. He may be expelled from school for strange conduct, for stealing, or for dangerous impulses, but he is probably not regarded in any other light than a wicked boy. In the course of the next few years he gives infinite trouble to his parents, but they do not recognise his case as one of Insanity. To save repetition we may here refer to the remarks already made in the section on Moral Insanity. There are also cases in which, without moral perversion, there is great depression of spirits ; others in which there is a decided maniacal paroxysm, but such an occurrence must be regarded as rare.

Those cases in which the moral character is mainly affected often prove to be epileptic; while those in which depression and disgust of life are prominent symptoms turn out to be illustrations of Insanity caused by masturbation, and will be spoken of in the next section.

Insanity caused by Masturbation.

Many years ago (1844) Dr Luther Bell, of the McLean Asylum, Massachusetts, and Dr Ray, pointed out in graphic terms this state of mental disorder as "a form of Moral Insanity." Sooner or later, however, decided delusions appear. The former described it as characterised by *strong suspicions of threatened personal injury,* of calumny experienced, of secret enemies, and analogous hallucinations, the patient at the same time evincing but little aberration in ordinary outward manner and conversation. "This type of disease," he says, "is so peculiar that it and its persumed cause are most generally correctly recognised on the application to the Asylum for admission, and before the patient is seen. The patient is committed with the strong anticipation that so slight a degree of Insanity can be readily and quickly removed. Vain hope! Experience shows just enough of recoveries in such cases to prevent absolute despair, and no more. Nay, more, the progress of the mind is commonly downward ; more than in any other form of disease it is difficult to sustain the sufferer's self-respect, and to make him tolerably comfortable. Ordinary motives fall powerless upon him. If the delusions are few, the disposition is sulky, mischievous, and dangerous ; if many, they are always irritation

and distressing. The hallucinations of these sufferers almost always run in a peculiar channel; spirits or evil-disposed persons whisper through flues and walls, or at the distance of miles, suggesting everything which is outrageous and insulting; gases, and influences more etherial, are scattered around them to render their existence wretched; nauseous matters are placed in their food; their sleep is wantonly disturbed by gross personal outrages, and the like. They are subject to be driven to fury, and commit acts of violence, if some particular person is fixed upon as connected with their wrongs. They are also subject to impulsive acts of violence where no delusion can be presumed to have prompted them, and where, indeed, the patient, after the paroxysm had passed, is unconscious of any delusion; he has committed the act of violence with no other explanation than that it crossed his mind to do it, and that simultaneously it was done. "Motives act scarcely at all upon these sufferers, except fear; higher appeals are powerless." ('Annual Report,' 1844.)

Dr Bell concludes this melancholy picture by expressing the opinion that (although the intellect is sometimes wonderfully little affected) the happiest thing that can happen for this class is to sink into Dementia. "Their own sufferings and those of their friends rarely have any earlier quiet."

Schroeder van der Kolk has also well described this form of mental disorder. "If," he says, "one perceives in a young man a certain shyness, and an evasive and cast-down look, a dull irresolute character, which are soon accompanied by stupidity and confusion of head, and weakness of memory, then one must be mindful of this sad vice. In addition to this, there is an inconstancy of character and inconsistency of demeanour, according as the unhappy tendency is indulged without restraint, or as in some degree a check is put to it. The fear of man often arises; they think that every one on the way looks at them, complain of it, allow themselves to be misled by all kinds of suspicion and perverted imaginations. If there occur, moreover, fanatical notions and self-accusations, then we can have scarcely a doubt as to the cause. We find also, in general, an irregular circulation, the hands cool, yet bedewed with sweat, the head hot, especially the neck and back of the head and vertex. Biting of the nails, scratching of the fingers, from which numerous hang-nails arise, may occur in other forms of melancholy, but most frequently in this. The bowels are also sluggish. . . . The dull look is, for the most part, quite

characteristic. The diminution of the intellectual power passes at last into Dementia. As a rule, it comes on more rapidly in young persons; it also occurs more quickly and intensely in the male sex." ('The Pathology and Therapeutics of Mental Diseases,' 1861-2, Eng. trans., 1870.)

Lastly, Dr. Skae describes this vesania in words which all familiar with it will admit to be eminently truthful. "I think," he says, "that this vice produces a group of symptoms which are quite characteristic and easily recognised, and give to the cases a special natural history; the peculiar imbecility and shy habits of the very youthful victim; the suspicion, and fear, and dread, and suicidal impulses, and palpitations, and scared look, and feeble body of the older offenders, passing gradually into Dementia or Fatuity." ('On the Classification of the Various Forms of Insanity,' 1863.)*

Insanity from Uterine or Ovarian Disorder (in early or later life).

In Dr Skae's classification, Utero- or ovario-Insanity is a term employed to designate the Insanity of old maids. Then, in addition, we have the mental disorders arising out of defective or irregular menstruation in early life. Dr Skae's "Amenorrhœal Insanity" would, in this way, form a sub-class. Thus, at p. 261–2, we have described a case in which a homicidal impulse was due to disordered menstruation, as an example of "Uterine (Skae's Amenorrhœal) Insanity." Many other cases of this kind will be found scattered throughout this work.

Skae originally made Nymphomania a separate form of Insanity, but subsequently relinquished it. So far as such cases arise from affections of the reproductive organs, they may be referred to Uterine or Ovarian Insanity.

Hysterical Insanity may be also merged into this ætiological division.

Uterine or Ovarian Insanity *proper* might be retained for the form especially intended by Skae, in the cases mentioned above.

"One of the most common symptoms is a sexual hallucination—the belief that certain persons visit them and cohabit with them during the night, and other similar delusions."

For description of Nymphomania, see p. 282, and the Ap-

* See also Maudsley's "Illustrations of a Variety of Insanity," 'Journal of Mental Science,' July, 1868.

pendix for a case (J. M.); also case of Acute Dementia from suppressio mensium (H. M.)

In this connection we may observe that Dr Hergt, of Illenau, regards deviations from a healthy state of the uterus which he has observed in a large number of female patients on post-mortem examination, as the first link in the causation of the attack of insanity.

See the chapter on Pathology for some observations on disease of the reproductive organs, including ovarian tumours.

Under this section falls :

Hysterical Insanity.

The form of mental disorder in which uncontrollable excitement is accompanied by the symptoms recognised as hysterical, and which is known as Hysterical Mania, is so distinctive in its features, that the word is now of a symptomatological rather than, as originally intended, an ætiological character. Most vague, however, as is the term hysteria, its relationship to the reproductive system seems sufficiently well marked to justify Hysterical Insanity being referred to its derangement. Professor Laycock, while, of course, insisting upon hysteria having its seat in the nervous system, lays it down as a principle that the "women in whom the generative organs are developed or in action are those most liable to hysterical diseases. Indeed, the general fact is so universally acknowledged, and so constantly corroborated by daily experience, that anything in the nature of proof is unnecessary." ('Nervous Diseases of Women,' p. 9.) The insane cunning which often forms a striking symptom of hysterical disorder of the nervous system is well described. "Of all animals," he says, "woman has the most acute faculties; and when we consider how these may be exalted by the influence of the reproductive organs, there is not much ground for surprise at the grotesque forms which cunning assumes in the hysterical female, although they have caused much speculation and astonishment. Insane cunning is usually exhibited in attempts at deception, but occasionally in a propensity to steal, or rather to steal slyly. It may be remarked that when it occurs, it is as much a symptom of hysteria as any corporeal affection whatever. It is a true Monomania, and is most likely to occur in the female who is hysterical from excess of sexual development,—one possessing the utmostmodesty of deportment, and grace of figure, and movement,"—a modesty springing out of that feminine

timidity which is itself "a marked trait of the hysterical. The slightest noise, or any fancied appearance of danger, is sufficient to excite alarm. Sometimes it accompanies paroxysmal affections, or is a Monomania when it is exhibited in terror; the patient fears she knows not what, will run somewhere or anywhere, and utters the most wailful cries" (p. 352-3).

Those labouring under hysteria are described in a few words by Skae as presenting all shades of mental disorder, "from singular moral perversion, living without food, giving birth to mice and toads, passing all sorts of curious things with the urine, up to the long and singular forms it presents with varied sexual and erotic symptoms, until we find it presenting a truly maniacal aspect."

On Hysteria in connection with Melancholia, see p. 229, and for a case presenting features of Hysterical Catalepsy, the next section. A case of catalepsy will be found at p. 239.

"There is no border line," observes Dr Savage, "between insanity and hysteria." He refers to cases "that have for a time loss of control, who know that shouting and rushing about are unlady-like and improper, and yet give way to such conduct; cases that if you can get a proper command over them can behave, and if judiciously treated, rapidly get well. We have (at Bethlem) many such cases associated with irregular menstruation or with the early onset of the catamenia. These cases exhibit every variety of mental symptoms. One will refuse to move without crutches; another will insist on being fed; one will remain always like a well-dressed doll, expecting to be noticed, but occupying herself in nothing but self-complacent introspection; one case will eat rubbish, and another will read with the book upside down. Many such cases find their way into asylums, by a sad misfortune, I think; for they are often so plastic and will-less, that they gradually get fitted into notches, from which it is impossible to move them. They suit themselves to their surroundings, and any attempt to force them back to the outer world is followed by an explosion that frightens friends and causes the patient's return. It is difficult to fully explain the nature of these cases, for it will not do to say that they know they are doing wrong or foolish things and yet do them, for not only do many acute maniacs know what they are doing, but the great majority of sane people act as injudiciously in the most important actions of their lives. Yet the persistence of acting in a childish way is very characteristic of these

cases; their general health, too, is good, or rapidly improves under regular care, and yet often, with this bodily improvement, there is no real mental gain. One variety of this hysterical mania is rather of an explosive nature—a girl rushes about, is rather fanciful than untidy in her dress and hair-dressing, is given to writing love-letters. Such cases may be often controlled by neglecting them as much and as judiciously as possible."

An illustrative case is given which was interesting from the extreme degree of irregularity in her capillary circulation; one hour she would be quite pallid and the next hour as crimson as possible. Referring to the opinion of the absence of mental weakening in hysteria, Dr Savage's experience confirms it in simple hysteria, but "there is always the danger that the hysteria is but the first stage, and that the patient may have an attack of Insanity following a longer or shorter interval; some cases of Hysterical Insanity ending in death or dementia. Thus we had one girl who at 18 was admitted suffering from a noisy, boisterous mania; she knew all she was doing, and would at times control herself. She was soon cured, but next year returned profoundly melancholic, and died of phthisis. As to cure in hysterical cases, the explosive cases generally get well, but are very subject to relapses, and these relapses are very dependent on menstrual irregularity. The frequency of an inherited taint makes the case less hopeful, and marriage is a very dangerous remedy to recommend. A well-marked example is C. M—, who at 17 was admitted into Bethlem. At first she was rather depressed, but soon became noisy and amorous, always wanting to flirt in an affected way. She had a great idea of her powers of fascination. Her mother was insane. She rapidly got well, but soon made Bethlem quite a home. For some time she held to a delusion that she was married. She was discharged well after fifteen months residence. She kept well for four years when she was again admitted after the birth of her first child. Her symptoms were similar to those in the first attack, and again she is well; but I fear if she continues to have children she will be subject to constant relapses, and that if she separated from her husband we should have no better result.

C. F—, æt. 19 when admitted. Was in Charing Cross Hospital for hysterical paralysis; refuses food, and imagines she has committed great crimes. Had distinct hysterical fits, and used to grow rigid when touched. Each attack of insanity was associated with amenorrhœa. Her first attack was so slight that she was not sent to an asylum. In her second she was six months in Bethlem, first desponding, then noisy and troublesome, and then rapidly recovering. Her third attack occurred after a love affair, in which she discarded her lover. Up to this time for three years she had been quite well. This attack was similar to the other, and she was discharged cured in six weeks, and followed the employment of a needlewoman till thirteen months later, when she again broke down and was in Bethlem, suffering as before, only more excited and violent, and the symptoms lasted for six months before she was well.

J. D—, æt. 20 when admitted, menstruation irregular. For two years had been subject to cataleptic fits; she had delusions about marriage, was very erotic, and was at times most obscene in action and language. Medicines were of little use. She gradually improved, and although of an amorous disposition she got fair self-control, and was discharged well. Has had no relapse, though she has left nine years ago. Has married and had a family.

G. S—, æt. 19. She exhibited the restlessness, the tendency to dwell on love and marriage, and also the habit of lying, so common in these cases. It was also remarkable to see the variations in her capillary circulation. She slowly improved and got well, and has followed her occupation as a governess ever since.

These cases that are considered as hysterical from the age of the patients and variability of the symptoms are common. Thus, each year six or seven per cent. of our female admissions are of this class. The percentage of cures is high in these cases, but it must not be supposed that all get well" ('Considerations on the Cures of Insanity,' p. 34-9).

Insanity of Gestation or Pregnancy.

Synonyms.—*Insania gravidarum* (Med. authors.) *Folie des Femmes Enceintes* (Fr.)

This disorder is not of frequent occurrence. Out of 2043 female patients whose form of insanity was ascertained by Ripping, of Siegburg, 64 or 3 per cent. arose during gestation.* (Die Geistesstörungen der Schwangeren, Wöchnerinnen u. Saugenden, 1877.) Of 383 female admissions, during ten years, at the Asylums of Eberbach and Eichberg, only four were attributed to pregnancy. It appears from some statistics, that cases of Insanity of Gestation occur chiefly about the end of the third or the beginning of the fourth month, the form of the mental disorder being Melancholia rather than Mania. (See article by Arnold von Franque, 'Wurzburgher Medizinisch Zeitschrift,' 1863.) In Ripping's cases, however, the fewest occurred in the third month, with the exception of the sixth. The numbers were much larger (and were equal) in the seventh, eighth, and ninth months. Griesinger attaches considerable importance to the influence of the emotions in the first pregnancy, in those predisposed to Insanity. It is indeed a matter of surprise that more women do not become insane, under such altered circumstances, than is the case, We must, however, regard as abnormal mental states the morbid longings, pica, &c., of pregnancy. "Sly stealing," as Laycock points out, is a very characteristic feature of mental derangement from pregnancy.

It should be added to the statement of the frequency of this form of disorder, in relation to female admissions, that its frequency in relation to puerperal and lactational forms was in 765 cases collected by Ripping, as follows :—16·4 ; puerperal 50·6 ; lactation 33 = 100. Out of 675 cases collected by

* This includes the period of labour.

Gundry (' American Journal of Insanity,' 1860) 88 began during pregnancy, 370 during the sixty days following delivery, and 207 during the period called lactational.

Delivery may, but often does not, exert a beneficial influence upon the mental malady. We do not refer to such mild forms of mental disturbance as the above-mentioned "longings" of pregnancy, but to actual Insanity. Recovery at the time of parturition when it does occur often proves only temporary.

Symptoms of mental disorder may arise during pregnancy and recur after labour. This occurred in the following case under the writer's care, in which the disorder assumed an hysterical form.

When in service, a young woman, only 18 years of age, became *enceinte*, and about a month after conception had "a fit," which appeared to have been hysterical in character. At nearly the full time of her pregnancy she was frightened by a thunderstorm, which caused her to be ill for several days with pain in the head and vertigo. Eight days afterwards she suddenly fell down unconscious, burnt her hand in the fire, bit her tongue, and foamed at the mouth; she was bled by the surgeon who attended her, and on the followed day a dead child was born. There were frequent attacks of convulsions during labour. From this time till a fortnight afterwards, when we first saw her, she was excited and incoherent; the milk had soon been dispersed, and the lochia had ceased the sixth day. She was very pale; pupils dilated; pulse 100, and weak; tongue flat, furred posteriorly; bowels confined; urine light coloured. She got very little sleep, and was always worse during the evening and night. During the following week she made decided progress, though frequently "roaming and outrageous;" then she had an hysterical attack which lasted about eight hours, apparently unconscious, but no convulsions. These attacks recurred several times, but she steadily recovered from her maniacal condition. At times she assumed a cataleptic attitude. The catamenia appeared two months after her confinement. It should be added to the foregoing that an aunt of her father was the subject of suicidal melancholy, and that she had an uncle who was a desperate drunkard. Her mother attributed her daughter's insanity to having herself "fretted very much on account of her husband's illness and death" when pregnant.

Of six cases of Insanity of Gestation reported by Leidesdorf (' Journal of Mental Science,' Jan., 1873), "four had already been mentally deranged before marriage. Pregnancy and the puerperal period heightened the mental disorder, and the patients passed into chronic incurable Insanity. In the course of a year one died in a condition of well-developed Dementia. . . . In two cases the attack came in the form of Melancholia in the fourth month of pregnancy; the one case underwent another excitement in the puerperal period, but terminated in recovery. The second case was a woman who in each pregnancy (this was the third) fell into a condition of considerable depression, with

horrible hallucinations, and after delivery found herself recovered.".

Dr Batty Tuke has reported the particulars of 28 cases of Insanity of Gestation, and observes regarding the period at which the attack occurred, that "the fact is not without interest that the great majority of the attacks occurred at those periods of utero-gestation which are generally considered critical." Three became insane during the third month, five during the fifth, one during the sixth, nine during the seventh, and one during the eighth; a different result from Ripping's.

The form of mental disorder was chiefly Melancholia. Out of the total number of 28, 15 were of this type, and 5 were in a state of Dementia with Melancholia. Nearly half either attempted or meditated suicide. In two unpromising cases there was Mania with exaltation. Moral Insanity was observed to be "by no means unfrequent, dipsomania being the most common symptom. This generally occurs during the earlier months of gestation, and is probably only an aggravated form of the well-known morbid craving or longing for particular articles of food which characterises the earlier months of pregnancy. As it advances it increases in intensity and gives rise to actual delusion and attempts at suicide. In two cases the moral perversion was evidenced by a homicidal impulse."

In a case characterised by craving for drink, the woman became suicidal and so dangerous as to render the restraint of an asylum necessary. After three months, during which her state was marked by moral perversion, sudden improvement took place; she began to work, gave over lying and stealing, and her general demeanour was agreeable. She recovered at the commencement of the fifth month of pregnancy and was discharged. After her confinement the symptoms of melancholia reappeared, and she made a determined attempt at suicide. On readmission she was deeply melancholy, but under tonic treatment recovered, and left the asylum well.

Three months after, having unfortunately become again pregnant, she manifested the same moral insanity as before, only with greater intensity. She also had delusions about her husband and neighbours; so she continued until the birth of her child—a fine boy. Three months after her recovery from labour the following note was made:—"No improvement in her mental condition. A more complete moral perversion could not exist in any one. She lies, steals, tells the nastiest stories without a blush, has not a grain of gratitude in her composition, invents the most dangerous stories against those who have been kindest to her, and seems, in fact, to be an incarnation of evil. She became quite unbearable in the sick-room, so her baby was weaned, and she was removed to another part of the house." Again, four months after, "she broke a number of panes of glass to-day. Judgment, powers of reflection, and self-control, much impaired. Neat and tidy." Subsequently she again improved, and was removed by her husband; but it has since been ascertained that, being again pregnant, her old malady has reappeared. She is now a patient in an asylum. ('Edin. Med. Journ.,' June, 1867.)

Hereditary predisposition was ascertained in 12 out of the 28 cases. In 18 cases it was the first attack, in 5 it was the second, and in 2 the third. In 4 cases the patients were not married.

As bearing on prognosis, it may be stated that 21 of these cases recovered, 5 became demented, 1 died, and 1 remained under treatment. Out of the cases reported by Ripping 34·4 per cent. recovered, 26·2 improved, 37·5 were uncured, 12·5 died, and 9·4 remained under care—a much less favorable result than the foregoing.

Puerperal Insanity (proper)

Synonyms.—*Insanity of Parturition. Insania post-partum. Vesania puerperalis* (Med. authors). *Folie puerpérale, Manie puerpérale* (Fr.) *Puerperalwahnsinn* (Ger.).

Definition.—The term Puerperal Insanity, Mania, or Madness, is by different writers employed in a restricted or a comprehensive sense. If the latter, it is made to comprise—(1) cases occurring during gestation (see last section); (2) those arising within a period of about two months after parturition; and (3) those due to lactation or weaning, especially the strain upon the system caused by the former when prolonged. It is here intended to imply by this expression the class of cases referred to in the second division, but it must be confessed that the line between the two latter divisions is often difficult to determine, and hence an observer will refer the same case to lactation which another refers to the puerperal state. Again, we, in any case, include under Puerperal Insanity proper, and exclude from the Insanity of Lactation, the large proportion of cases which arise not only from labour itself, but from the excitement of the lacteal system. If insanity arise in a woman who has been suckling about three months, we call it a case of Insanity of Lactation, while if only two, we may perhaps call it a case of simple Puerperal Insanity. The distinction as regards time is therefore somewhat vague, and each case on the border line must be judged on its own merits, as to whether it arises chiefly out of the puerperal state or the latter period of established lactation. We assume about sixty days for the former.

General Remarks.—Puerperal Insanity is a disorder which from its importance merits special attention. It invades the sick

chamber at a time when it is most acutely felt; nor is it, if we include mild cases, of very rare occurrence.

The statistics of simple Puerperal Insanity are, however, on a small scale, those cases which arise from lactation being usually included. Of 2181 female patients treated in the Royal Edinburgh Asylum, in which the cases were distinguished by Dr Batty Tuke, 73 were examples of Puerperal Insanity proper, or 3·3 per cent. But this very imperfectly represents the number of occurring cases, because in many instances the patient recovers without being sent to an asylum. Out of 3246 admissions of insanity among women collected by Ripping, 211 or 6·8 per cent. belonged to this division—the proportion of cases of Puerperal Insanity in this its limited sense being 50·6 in 100 cases of general puerperal insanity.

It is, certainly, a remarkable fact, as has been pointed out by Dr Reid, that, in lying-in hospitals, the number of patients who are so attacked, is very small. He states, that at the General Lying-in Hospital, Westminster, in which patients remain for three weeks after labour, out of 3500 who were delivered there, only nine were affected with Insanity. The experience of several other large institutions is to the same effect. We do not observe that Dr Reid offers an explanation. It might, perhaps, be accounted for by the very favorable circumstanes (quiet, good nursing, and sufficient nourishment) which surround the hospital patient, as compared with those of a patient of the same destitute class at her own home. Nor must it be overlooked that the absolute number of cases of Puerperal Insanity may be large, while, as compared with the enormous number of cases of labour, it may appear small.

It may seem extraordinary that, in Esquirol's experience, patients of the higher class, among whom quiet, good nursing and sufficient food would not be wanting, suffered most from this malady. Here, however, these favorable circumstances may have been counterbalanced by others of an unfavorable description more or less connected with luxurious living. French statistics appear to show a larger proportion of cases of Puerperal Insanity than those of our own country, but they include cases occurring from lactation, so that it is not certain that, if a fair comparison were made, the results would differ. This must be borne in mind when Esquirol states that at the Salpêtrière a twelfth and, during some years, a tenth of the female admissions were due to Puerperal Insanity.

With regard to the time at which the mental symptoms appear, in the above 73 cases at the Royal Edinburgh Asylum, 20 certainly, and probably 27, showed signs of Insanity from the first up to the fifth day after labour, 36 from the fifth to the end of the fourteenth, and 10 or 11 from the fifteenth to the sixtieth day. Of 52 cases collected by Esquirol, the corresponding numbers were as follows : first period 16, second period 21, third period 17. Esquirol fixes on 60 days as the extreme limit of the lochial discharge.

In 82 cases reported by Ripping, 6 occurred on the first day after delivery, or 7·2 per cent.; 1 on the seventh day; 6 on the third day; 35 or 42·6 per cent., during the first week; 22 or 26·8 per cent. during the second week; 7 during the third week; and 6 during each week following, namely, the fourth, fifth and sixth.

From the above it will be seen that by far the largest proportion of cases occurred during the first fortnight after labour. Dr Burrows found the third and fourth day the most obnoxious to the disease. Of 66 cases reported by Dr Macdonald, formerly physician to the Bloomingdale Asylum, 29 became deranged within the first week, and 15 during the succeeding three weeks, that is, 44 cases during the first month. In the course of the second month 5 cases occurred, thus confirming the general rule that the danger diminishes as the distance from the period of parturition increases.

Puerperal Insanity more frequently attacks females in their first than in their subsequent labours. Of the Edinburgh Asylum cases, the attack came on in 34 instances on the occasion of the first confinement, and in 16 instances on the occasion of the second. It is shown that "an increase of liability to Insanity exists between the ages of 30 and 40 in child-bearing women, and that first confinements occurring at that period are peculiarly frequently followed by true Puerperal Insanity." In one case the patient had had Puerperal Mania three times before; in four cases, twice; in ten, once. In Ripping's cases (82) 24 were first confinements, 11 were second; 11 were third; 10 fourth; 6 fifth; 5 sixth; 5 seventh; 4 eighth; 2 ninth; 0 tenth; 2 eleventh; 1 twelfth; and 1 thirteenth. The attack in 12 instances immediately followed the death of the child.

Symptoms.—Although it must not be supposed from the usual expression "Puerperal Mania" that Mania is the only form of

Insanity which occurs in this condition, Melancholia, Delusionla Insanity and Dementia being possible results, yet Mania is undoubtedly the most frequently developed.

In the 73 cases reported by Dr Batty Tuke, 57 presented the symptoms of acute Mania, 15 those of Melancholia, and one was a case of Epileptic Insanity. When cases of Puerperal Insanity (proper) assume the form of Melancholia, it appears that they are likely to prove recurrent cases of Insanity of Gestation; Mania, as we have said, being the usual form of Insanity arising after parturition. In Ripping's cases the majority assumed the form of Melancholia in a much greater degree than Mania during the first three days, namely 77 per cent. of the former, and 23 per cent. of the latter; they exhibited the characters of Mania in the second half of the first week, and in the second week; whilst in the fifth and sixth week Melancholia again predominated.

Some deny that there is any difference whatever between the character of the Mania manifested in the puerperal state and that of Mania arising from other causes. Dr Gooch makes the remark, that were any one conversant with mental maladies to be introduced to a patient suffering from Puerperal Insanity, he would not be able to tell, without inquiry, that the case was of puerperal origin. "As to the pretended special value of erotic symptoms," observes Foville, "M. Marcé has demonstrated that there is nothing real in them, and we are entirely of his opinion."

A strong suspicion as to the nature of the attack would, however, often be excited, putting aside the physical accompaniments which would suggest the true state of the case. As Dr Macdonald says, "In the acute form of the Mania which succeeds parturition, we observe an intensity of mental excitement, an excessive incoherence, a degree of fever, and, above all, a disposition to mingle obscene words with broken sentences—things which are rarely noted under other circumstances. It is true that, in Mania, modest women use words which in health are never permitted to issue from their lips: but in Puerperal Insanity this is so common an occurrence, and is done in so gross a manner, that it early struck me as being characteristic." In his evidence in the Mordaunt divorce case Sir James Simpson said:—"Self-accusations of impropriety were a common symptom of Puerperal Insanity. The organ diseased gave a type to the Insanity, so that with women suffering from it the delusions would be more likely to be connected with sexual matters."

Among the cases at Bethlem Hospital, Dr Savage states that he has several times judged a case of insanity to be puerperal, from the mincing gait and lascivious looks of the patient.

Before the mental symptoms are fully developed, the patient becomes uncomfortable, peevish and restless, and cannot sleep; the head aches, and there is an altered expression of countenance. Whether as cause or effect, the milk and lochia are often either diminished or suppressed; the lochia more frequently than the milk; the tongue is white, the bowels loaded, the urine generally scanty, and, Professor Simpson has pointed out, frequently containing albumen;* the abdomen, in most cases, tolerant of pressure; the pulse accelerated, and usually irritable in character, rather than febrile. There is, however, a class of cases in which the pulse and other symptoms indicate an inflammatory condition of the system, and such cases are of a much more serious character. Dr Burrows noticed them chiefly in connexion with the first secretion of milk (on the fourth or fifth day) Some of these are examples of Phrenitis, and not properly of Mania, but of 16,444 cases delivered at the Dublin Lying-in Hospital, three only are reported by Dr Collins to have died of Phrenitis; others are examples of inflammatory action going on in the peritoneum, or other regions of the abdomen. Frequency of pulse is a symptom of primary importance. Dr B. Tuke in observing that when an inflammatory pulse is present, the prognosis must be most unfavorable, adds, "I am sorry to admit that in my experience, which extends to four cases complicated with internal inflammation, two of bronchitis, one each of peritonitis and pelvic cellulitis, the result was invariably fatal."

As the patient attacked by puerperal madness becomes more decidedly insane, "the talking is almost incessant, and generally on one particular subject, such as imaginary wrongs done to her by her dearest friends; a total negligence of, and often very strong aversion to, her child and husband are evinced; explosions of anger occur, with vociferations and violent gesticulations; and, although the patient may have been remarkable previously for her correct, modest demeanour, and attention to her religious duties, most awful oaths and imprecations are now uttered, and language used which astonishes her friends; the

* In cases admitted at Bethlem Hospital, Dr Savage has rarely found albumen. In a woman who had a very acute attack after a miscarriage, albumen in slight quantity was detected, and was present only during the period of excitement.

eye is wandering and unsteady, and the hearing most acute. The *suicidal tendency* is not uncommon, especially in cases of Melancholia; and it is important to recollect the fact in the treatment of such patients. In 111 cases of Puerperal Insanity at Bethlem Hospital, 32 were affected by it." (Dr Reid, in Psychological Journal,' No. 1, p. 135).

A brief note or two of cases under the writer's care except No. 5, will serve to illustrate some forms of Puerperal Insanity.

(1.) Mrs. C— was confined with her seventh child (a girl); labour perfectly natural. She had miscarried eighteen months previously, and had never menstruated afterwards. After the labour, the pulse was 80 and soft, the tongue clean, and the urine was passed the same evening. On the following day there was a fair lochial discharge, the pulse was only 80, and the skin was warm and moist, but she considered the supply of milk less than usual. On the *third* day the secretion of milk increased; the bowels had been opened in the morning by medicine. The pulse rose to 100. *Fourth* day: had a restless night and was feverish during the day. Pulse 120, soft and compressible. The tongue, however, was clean. *Fifth* day: less fever, and thought herself going on well. Pulse less frequent, 108, very compressible; tongue quite clean and moist. There was a good supply of milk, and the lochia were not unnatural in their character or quantity. No pain or tenderness in abdomen. The only thing she complained of was vertigo; evidently required support. *Sixth* day: same. *Seventh* day: the writer was called to see her at 6 a.m. The change of expression was very marked. She was in a sluggish state, and replied very incoherently to questions. It appeared that during the night she had been excited, talking nonsense, &c. The pulse was 120, full, but not hard. Tongue covered with a white fur, inclining to be dry; skin hot, but moist. The secretion of milk was now decidedly checked. The head was hot and had been very painful in the night; but the conjunctivæ were not injected, and the pupils were dilated. Towards evening the tongue became dryer, with a brown fur down the dorsum; total inability to sleep; increased confusion of mind, &c. The case was clearly one of exhaustion, and was treated accordingly. In two or three days the unfavorable mental symptoms passed away, and the patient made a good recovery.

(2.) In the case of a poor woman who gave birth to an illegitimate child, this circumstance and poverty conspired to upset her mind. The attack did not come on until two months after her confinement. It was characterised by crying, laughing, and a total indifference to the baby. She was insane for about six weeks, recovering under morphia and iron. The child was weaned; but the catamenia did not appear until five and a half months after recovery. The child had hereditary syphilis. The mother subsequently married.

(3.) We had at one time a very troublesome case under care, one of Melancholia succeeding abortion, in which there had been alarming loss of blood. She was very anæmic, and for long the symptoms appeared to be little influenced by the pharmaceutic remedies employed; but she gradually improved.

(4.) In another case, a woman, aged 37, had a child, and recovered well from her confinement. In about five months she became melancholic, absent, and was troubled with strange notions for which she was unable to account—scruples, suggestions, &c. She could not sleep; she was pale; tongue flabby and indented at the edges; pulse frequent and feeble; skin relaxed; bowels confined; urine sometimes thick, sometimes clear; no appetite; head cool; conjunctivæ pale. In about four months she

recovered under obviously indicated remedies, but was subject to hysterical attacks for some time after.

(5.) J. A. L., æt. 29, became suddenly insane a few days after her confinement. The symptoms were loud rambling talk, singing, hallucinations of sight, great excitement, insomnia, delusions, as that she had given birth to a young elephant. She was kept with difficulty from injuring herself by jumping out of bed. On admission into St. Luke's Hospital, where Dr Mickley allowed the writer to examine her and obtain notes of the case, she was very noisy and reckless, tearing her hair off, and doing all she could to injure herself. She was pale, but well nourished. Had to be placed in a padded room. Abundant nourishment, and subsequently stimulants were administered. Sedatives also were given, but without procuring rest till the following day. The hands and wrists then became swollen and tense, along with slight œdema of the ankles. Became quieter and more rational. Temperature very high; pulse rapid. Slight cloudiness of urine, tongue dry, papillæ prominent.

This patient became rapidly worse, the erysipelatous swelling increasing, the breathing becoming rapid, sordes appearing on the teeth, and the patient sinking on the seventh day after admission. No post-mortem.

In the seven following cases the urine was tested for albumen.

A. B— had convulsions about six hours after delivery. The urine, which was smoky, was examined and found to be loaded with albumen and a thick sediment of lithates, sp. gr. 1040. The next day the fits were less violent, but she was quite maniacal, tearing up her clothes and otherwise misconducting herself; evacuations were passed in bed. Was purged with calomel and croton oil. On the following day she was less excited and the fits ceased. At the end of the week she was convalescent, and in ten days all trace of albuminuria had disappeared.

There was in this case some œdema of the legs for a week before confinement.

C. D— was attacked with convulsions during labour. The maniacal symptoms were more severe than in the previous cases, lasting ten days. The urine was albuminous, and remained so three weeks. She recovered well.

In five mild cases of puerperal convulsions, attended with a rapid pulse, a good deal of excitement, but no decidedly maniacal symptoms, there was no albumen in the urine, which was pale and of low specific gravity. These patients (*primiparæ*) recovered in about twenty-four hours.

Sometimes a state of mental stupor succeeds—acute dementia, or what may turn out to be rather *melancolie avec stupeur*. There is apathy, little apparent perception of what is passing around, dirty habits, a lost expression, a tendency to catalepsy, and the patient may require feeding.

Ætiology.—Hereditary predisposition is a striking feature of cases of Puerperal Insanity. Among exciting causes are mental shocks of any kind, distress of mind, especially in unmarried women, a tedious exhausting labour, flooding, and the use of the lancet for puerperal convulsions.*

* A medical friend writes, "Two cases of convulsions occurred in my practice in one week whilst I was from home. Both were bled very freely at the time. On my return they were both maniacal (with no albumen in the urine). They were both

Prognosis.—Very favorable, unless it assumes an inflammatory or typhoid type (see p. 137). The mortality in Puerperal Insanity is not large. At Queen Charlotte's Lying-in-Hospital, during 36 years (1828–63), the whole mortality from all causes (number delivered 7736) was 198. Of these, 16 were cases of Puerperal Mania. The mortality at Bethlem is stated to be 4½ per cent. Of the 73 cases at the Royal Edinburgh Asylum, 8 died, 7 became demented, 2 were discharged relieved, and 56, or 76 per cent., recovered.

Ripping's experience at Siegburg was less favourable. Of 82 cases only 38 recovered (46·3 per cent.), 9 improved, 25 did not recover, 4 died, and 6 remained under treatment. If we throw these cases and the Edinburgh ones together, along with those at Wakefield mentioned below (a total of 193), we have a percentage of recoveries of 64.

Of 38 attacks of Puerperal Mania occurring during the first month after labour, admitted into the West Riding Asylum (1869–72), 2 died (from a complication—Bright's disease), 31 recovered; 5 of these being discharged in less than three months, 14 in less than six months, 6 in less than nine months, 3 in less than twelve months, and 3 in more than twelve months. Five remained under care, in an improved condition ('Medical Reports,' 1872, vol. ii, article by Dr Pedler).

Dr Webster states, as the result of his statistics, that "three in every five cases of Puerperal Insanity may be confidently expected to recover within the year." Two thirds of Esquirol's cases were cured within the first six months after the commencement of the attack. Eighty per cent. of Dr Macdonald's cases recovered; and out of 53 recoveries, 34 took place within the first six months of the attack. Brierre de Boismont asserts that cases of Puerperal Insanity (exclusive of Melancholia) have recovered under his care, on an average, in about a week. He has always found refusal to take food a bad sign. The number of months occupied in recovery at Bethlem Hospital in 58 cases of cures of first attacks of Puerperal Mania and 54 cases of Puerperal Melancholia has been ascertained by Dr Savage as follows:

delicate and highly nervous subjects; one was six months before she recovered her reason, the other twelve months."

First Attacks of Puerperal Mania.

Number of months before cure	1	2	3	4	5	6	7	8	9	10	11	12	15	18
Number of cases		2	12	7	9	4	3	6	2	3	2	9	3	2

Cases uncured in from 12 to 18 months 13

Cases that died 7

(Three died of pyæmia; three of pulmonary tubercle; and one of Bright's disease).

First Attacks of Puerperal Melancholia.

Months before cure	1	2	3	4	5	6	7	8	9	10	11	12	15	24
Number of cases		2	4	7	7	9	3	6	3	2	2	5	1	3

Hence, the third month showed the majority of cases in Mania; the sixth in Melancholia.

To the above statistics it should be added, that they do not, as Dr Gooch and Dr Prichard have observed, lead to a prognosis even sufficiently favorable, inasmuch as cases are not usually admitted into asylums in a recent, and therefore the most curable stage of the disease. "Of the patients about whom," says Gooch, "I have been consulted, I know only two who are now, after many years, disordered in mind, and of them, one had already been so before her marriage."

See, in addition to Esquirol, Burrows, Gooch, Reed, &c., the evidence in the Mordaunt divorce case, 'Journal of Mental Science,' April, 1870; "Observations on Puerperal Insanity," by Dr Boyd, idem, July, 1870; "A Contribution to the Study of the so-called Puerperal Insanity," by Dr J. T. Dickson, idem, Oct., 1870; "On the Statistics of Puerperal Insanity," by Dr J. B. Tuke, 'Edinb. Med. Journ.,' May, 1865, and June, 1867; 'Monographie der Puerperal-krankheiten,' Helm, 1840; 'Traité de la Folie des Femmes enceintes, Marcé, 1858; "Puerperal Mania," by G. H. Pedler, L.R.C.P., in 'West Riding Asylum Medical Reports,' 1872, vol. ii; "Observations on the Insanity of Pregnancy and Childbirth," by Dr Savage, in 'Guy's Hospital Reports,' 1875.

Insanity of Lactation.

Synonym.—*Insania Lactantium.*

Definition.—Insanity caused by lactation; the period after labour being arbitrary, some fixing the minimum time at one, others, like ourselves, at two months.

As to its frequency, it may be stated that of 2181 female patients treated at the Royal Edinburgh Asylum mentioned at p. 351, 54 or about 2½ per cent. were cases of Insanity of

Lactation, using the term in the restricted sense already indicated.

Out of 2962 corresponding admissions collected by Ripping, 146 or 4·9 per cent. were referred to lactation. The proportion borne to puerperal cases in the wide signification of the term was 33 per cent.

From Esquirol's total number of cases of Puerperal Insanity (in its widest signification) we rejected, when speaking of Puerperal Insanity proper, those which occurred after the sixtieth day, considering that these more properly belonged to the division of Insanity of Lactation. These cases amounted to 38, of whom half became insane a few days after a forced or voluntary weaning, Esquirol observing that in his experience "nursing women, at least among the poor, are much more liable to become insane after weaning than during lactation."

Symptoms.—The physical symptoms are usually those indicative of bloodlessness—pallor, palpitation, headache, inability to sleep, sense of weakness and sinking, &c.

Of 46 cases at Siegburg, 32 were affected with Melancholia and 14 with Mania.

Of Dr Batty Tuke's 54 cases already referred to, the symptoms were those of Acute Mania, "severe, but evanescent," in 10, Melancholia of various degrees of intensity in 39, and Dementia in 5. The maniacal symptoms rarely lasted more than ten days or a fortnight, and were generally attended with hallucinations of the different senses, and delusions. The Melancholia (which it will be seen was much the most frequent) was marked "by delusions either of a suspicious character, or as to personal identity, hatred of children, husband, or friends, and a strong suicidal tendency." The latter was present in 17 of the total number of cases.

Instead of giving an ordinary case of Insanity from prolonged lactation, manifested by the usual characters of Melancholia followed by recovery, we subjoin an exceptional case, marked by acute maniacal delirium, and terminating fatally :

"A farmer's wife, æt. 27, was admitted into the Somerset County Lunatic Asylum. She was in a state of delirium; attempted to injure her children and also herself; skin hot; feverish; pulse 120. The attack came on a week before admission to the asylum, and four months after childbirth; she had a carbuncle on her back; general health bad; she was incoherent and wandering; had lost her memory, and was destructive. She was an irritable person, but of a kind disposition. For the first week she had to be fed by the stomach tube; pulse 80. She continued restless.

"She died four weeks after admission. The body was examined twenty-nine

hours after death, and the dura mater was found to be preternaturally adherent to the skull; the cerebral vessels congested with blood; slight opacity of the arachnoid; spinal cord natural; redness of lining membrane of the bronchial tubes; abdominal organs large and congested; uterus two ounces and a half; mucous membrane vascular; dark, congested patches in the intestines. Cause of death meningitis, bronchitis, &c." (See this and other cases in 'Journal of Mental Science,' by Dr Boyd, July, 1870.)

Ætiology.—Lactation prolonged beyond the endurance of the mother and consequent anæmia and exhaustion.

The ill effects of long nursing are shown by the number who become insane in the latter months of lactation.

Of 54 cases at the Royal Edinburgh Asylum reported by Dr Batty Tuke, 2 had become insane during the third month, 6 during the sixth month, 4 during the seventh month, 2 during the eighth month, 6 during the ninth, the same during the tenth, 5 during the eleventh, 6 during the twelfth, 2 during the thirteenth, and the same during the sixteenth. Hence 33 out of 54 occurred after the sixth month. In 13 cases the month was not recorded.

In 8 cases the attack of Insanity appeared during the first nursing, in 4 during the second, in 9 during the third, in 5 during the fourth, in 6 during the fifth, in 2 during the sixth, in one during the seventh and the eighth, in 2 during the ninth, and in one during the tenth and the eleventh month. In the remaining 14 cases the women were multiparæ, but the exact confinement was not ascertained.

Ripping's cases began mostly in the second half of the second month, or in the third month after delivery, less often in the fourth and fifth month, and seldomer still at a later period.

Prognosis.—When resulting simply from the anæmia induced by prolonged suckling, the prognosis is very favorable.

Of the 54 cases already referred to at Morningside, 39 recovered, and only 1 died; 12, however, lapsed into Dementia, 2 remained under treatment and were not promising cases. Of the 39 who recovered, 7 were under treatment more than nine months, 4 eight months, the same number seven months, 5 six months, 4 five months, 6 three months, 4 two months, 3 one month and 2 only three weeks.

Of 29 cases at the West Riding Asylum, 1 died, 27 recovered (6 in three months, 12 in six months, 5 in nine months, 1 in more than twelve months, 3 were convalescent), and 1 remained incurable (op. cit.). In these cases the symptoms of Insanity

appeared from six weeks to twenty-one months after the commencement of lactation.

Of Ripping's cases (46) 42·5 per cent. recovered; and 10·6 improved. One patient died.

Climacteric Insanity.

It is stated by Dr Tilt that between 3 and 4 per cent. of women suffering from nervous disorders at this period become insane. Probably this is an under estimate.

From statistics collected at the West Riding Asylum by Dr Merson ('West Riding Medical Reports,' vol. vi, 1876) showing the age at the time of the attack of Insanity, and the condition of menstruation in 333 cases, it appears that the age specially liable to an attack in connection with the climacteric period, is that from 44 to 48; the average age of cases between 40 and 54, being 46·5. In any single year, the highest number was at 50. Of 1054 admissions in four years, 159 were those of women at the change of life; this not necessarily forming the only or even the main cause of the attack.

It was found that single women were more liable to attacks at this age than married, but as this was observed to be the case, whether insanity was traceable to the cessation of the catamenia or not, the result did not appear referable to menopausal influence.

As the morbid mental phenomena which occur at the change of life depend in women upon the altered condition of the utero-ovarian apparatus, the mental diseases of the critical period of life are also examples of a Uterine or Ovarian Insanity. The term "Climacteric Insanity" was chosen by Dr Skae to include the mental affections of the male as well as the female sex at this period of life. An intense craving for drink may be the prominent, and perhaps the only symptom which characterises the morbid condition of the system. Skae gives as pathognomonic of this form of Insanity, both in men and women, a class of symptoms which are certainly very common at this trial epoch of life, namely "a Monomania of fear, despondency, remorse, hopelessness, passing occasionally into Dementia."

The symptoms of the cases admitted into the West Riding Asylum above referred to, were grouped by Dr Merson as follows:—1. Cases characterised by simple depression without

hallucinations of the senses, or intellectual derangement. In some, extreme nervous irritability and hyperæsthesia of sensation, almost amounting to hallucination. 2. Depression, also, the prevailing condition, but along with this, great emotional and intellectual disturbance. Hallucinations of the senses not uncommon, and some vague delusions of a depressing kind nearly always present. 3. Delusions of suspicion and persecution the most prominent symptoms. In most cases, hallucinations of the senses and outbursts of excitement not unusual.

The above cases were uncomplicated with organic disease of the brain, others suffered from Epilepsy, General Paralysis, atrophy, &c.

During eight years the admissions under this head at the Hanwell Asylum (as regards women only) were reported as only eight in number. Of 361 female cases due to physical causes admitted into the Salpêtrière, 27 were attributed to this cause. As showing the imperfection of these returns it may be added that in Dr Skae's Annual Reports for 1869-70-71-72, we find, out of 558 female admissions during these years, 62 cases of Climacteric Insanity. Among the males, out of 515 admissions we find 44 cases reported.

A woman, æt. 45, was sentenced to death for wilful murder at Ipswich in 1876. The victim was a neighbour, and no cause could be discovered. Her insanity was connected with the cessation of the catamenia; and she suffered from maniacal paroxysms and convulsions at the periods when the catamenia would, ordinarily, have been present. This case is given by Dr Orange in the 'Broadmoor Report,' 1877.

In the case of a woman, reported by Dr Merson, an impulse arose which "took the form of a desire to kill some one near and dear to her, and she confessed that, before anyone noticed her mental condition, she experienced this feeling, and had to leave the house of a daughter, with whom she was living, on account of an uncontrollable impulse to murder her grandchildren."

Prognosis.—As observed by Griesinger, "the various conditions arising from sexual super-excitation in men of advanced years, are very grave in a prognostic point of view; they generally proceed to Dementia. Schr. v. d. Kolk says, "if religious melancholy begins in the climacteric years, then the prognosis is very unfavorable."*

In view of cases at Bethlem Hospital, Dr Savage observes that the characteristic period, "instead of being as one might

* See Tilt on 'Diseases of Women,' and 'On the Changes of Life.' "Menstrual Irregularities," by Dr H. Sutherland, in the 'West Riding Lunatic Asylum Medical Reports,' vol. ii, 1872. 'The Climacteric Period in Relation to Insanity,' by Dr Merson, idem, vol. vi, 1876.

have imagined, a bar to the progress of Insanity, really is the sluice at the opening of which all the mental power is wasted away" ('Guy's Hosp. Reports'). "Those cases that have their first attack of Insanity at the climacteric, whatever the form of disease, are unfavorable, but cases that recover from this their first attack seem to be tolerably free from remissions." "The climacteric is dangerous to persons who have had previous attacks of insanity, especially, I believe, if these have been of puerperal origin" ('Considerations on the Cures of Insanity').

The cases reported by Dr Merson show a more favorable result, if the period of life extending from 40 to 54 years be taken; inasmuch as of 147 in whom the attack was referable to the change of life, 69 or nearly 47 per cent. recovered. Excluding cases complicated with epilepsy, General Paralysis, and other organic brain diseases, the proportion was as high as 59·5. It would have been interesting to know the recoveries from the 44th to the 48th year.

Insanity from Abdominal Disorders.

The influence of abdominal affections upon the mind has been universally admitted, especially those of the colon and liver. So far as we know, however, Schr. v. d. Kolk was the first who attempted anything like a definite delineation of a special form of Insanity in connection therewith, under the designation "Sympathetic Mania proceeding from the Colon." According to him "it is characterised by a peculiar depression of spirits, by anguish of mind, and by the patients self-accusation of wickedness and baseness, either in the present or in some previous time. The disease has a very slow course, and generally the anguish of mind and the self-accusings have already existed some time before the physician is consulted. At first the patient strives against his gloomy thoughts, and in presence of strangers he behaves quite like a sane person, so that one does not perceive or suspect anything unusual about him. This does not happen in Idiopathic Insanity. Moreover, the patient has generally suffered previously from sluggish bowels, sometimes even for years; often the bowels are only open once in several days, without this having caused him any particular annoyance. In addition, not rarely do hæmorrhoidal complaints appear, namely, tumours and bleeding at the anus, or, perhaps, also a

violent itching in this part. These hæmorrhoidal sufferings, however, especially the loss of blood, have usually diminished or even quite ceased before the outbreak of Melancholy.

"The melancholy usually increases slowly if the mournful frame of mind is not more strongly developed by special circumstances. The patient seeks to be alone and likes to conceal himself in a dark corner. He has also an extremely unpleasant feeling in the præcordia, which not unfrequently extends towards the left side, especially in women, and in them hysterical symptoms are sometimes added, especially the so-called globus hystericus. Further, there is present an indescribable feeling of distress which does not, in the least, lose ground, and which is generally interpreted as qualms of conscience."

After referring to inability to read or pursue any work requiring attention or memory; sleeplessness; self-tormenting accusations early in the morning; spinal irritation, marked by increased pain in the head on the upper part of the neck being pressed; urine dark and depositing a sediment, he adds—

"All these symptoms are explained by the affection of the colon, and its reflex influence on the upper part of the spinal cord, on the brain, and even on the kidneys. In great præcordial distress the transverse colon is often enlarged and loaded with fæcal matter. The bowels are then generally sluggish, and the feeling of uneasiness increases with retention of the fæces. Less frequently the patients complain of an uncomfortable feeling in the right side, and in the region of the liver." ('The Pathology and Therapeutics of Mental Diseases,' p. 128-34.)

Under the head of "Mania proceeding from the Urinary Apparatus," Schr. v. d. Kolk describes the following case.

"A merchant from Liverpool, who had been for some days very much irritated, and had drunk whisky, got a catarrh of the bladder with painful and difficult micturition; the urine was quite thick, and was only evacuated drop by drop. The treatment was directed against enlargement of the prostate. The catheter caused violent pain, and increased the difficulty in passing urine, so that off and on, complete anuria occurred.

The mental symptoms which succeeded are stated to have been as follows:— Violent nervous symptoms, hallucinations of hearing, and subsequently of seeing also.

The urine was quite thick, and contained much mucus, and on account of the affection of the bladder, the patient had lime water with extract of cicuta, as well as intermediately a decoction of linseed. Under this treatment the symptoms of catarrh of the bladder rapidly diminished, the urine was clearer, and more easily passed. Therewith the patient awoke as out of a dream; he was conscious that his former ideas had been erroneous, and he appeared to be quite well. After a short drive he had an attack of orchitis, and he again became somewhat confused. In the further course of this case, a slight aggravation of the vesical catarrh occurred, *and immediately his hallucinations returned.* But all the symptoms quickly disappeared

through the continued use of Aqua Calcis, and keeping the bowels regular; in two months the man left the institution quite cured, that is to say, free from all urinary complaints, and free from all intellectual confusion. A year after his discharge I heard that he remained quite well." ('The Pathology and Therapeutics of Mental Diseases,' p. 148.)

In the 'Report of the Royal Edinburgh Asylum' for 1871 two cases are recorded associated with renal disease. The remarkable similarity of the symptoms in these patients, one of whom was a female and the other a male, and in whom "Insanity was coexistent with the waxy form of Bright's disease of the kidney,"* is particularly mentioned by Dr Wright:

"In the case of the male patient Insanity had existed for years, and he indicated a predisposition to its occurrence. At the commencement of the disorder the symptoms were of the sthenic type, and consisted of maniacal excitement and delusions; homicidal impulses were also displayed by him; bodily health was then reported as good. After being resident in the Asylum for some years, the symptoms of this man's insanity gradually changed; they assumed the asthenic type. He became very querulous and extremely selfish; his powers of self-control were much weakened, and he would cry like a child when recounting his troubles, real or imaginary. This change of disposition commenced, and advanced *pari passu*, with the advent and progress of the symptoms of the kidney disease. His micturition became very frequent, urine was passed in large quantities, and of low specific gravity, and his complexion became colourless, and of the tallowy hue frequently noticed as co-existent with the waxy forms of Bright's disease.

"In the case of the female, Insanity came on with the invasion of the kidney disease, or rather with the general constitutional depression which preceded the appearance of more general symptoms. In this case, and in that portion of the former which corresponds (*i.e.* after the appearance of Bright's disease), the mental symptoms and general appearance of the two patients were almost identical; querulous, discontented, constantly moaning and weeping over their unhappiness; no kindness consoled, no attention soothed them."

In connection with the alleged relation between disease of the liver and the production of any particular mental symptoms, there can be no doubt that Melancholia is the form of mental disorder which we most frequently witness in combination with hepatic derangement of a chronic character.

In the 'Annales Médico-Psychologiques' for Sept. 1872, p. 201, is a paper by M. Lunier, on the relation between Icterus and Insanity, with cases showing a certain degree of relationship. Its chief object, however, is to illustrate, not the influence of hepatic affections in causing, but in curing mental disease, with which we are not now concerned. Griesinger observes that Icterus "appears to have a great influence on the disposition (Stimmung), and we sometimes see acute *icterus*

* Dr Wilks has recorded a case in the 'Journ. of Ment. Sci.,' 1869, p. 243.

gravis accompanied by violent delirium without any cerebral change. As regards the influence of icteric states on the production of Chronic Insanity no definite observations are recorded." (Die Pathologie u. Therapie &c., p.199.)

In four of Dr Skae's 'Annual Reports' within our reach, 1869–70–71–72, no such case is entered as being admitted.

Post-Febrile Insanity.

Nasse, who has paid much attention to mental affections originating in fever, classifies them according as they are (1) the immediate result of the fever itself, or (2) constitute a a prolongation of the delirium when the fever has subsided, or (3) arise during convalescence. The last class is more especially intended by the term "Post-Febrile Insanity." The time during which it is gradually gaining force may be long or short; irritability, as in the incubation of Insanity generally, is a frequent sign of the oncoming malady, and a change of manner in various ways which excites the surprise of the friends, and perhaps some degree of childishness. Out of 2000 patients admitted during six years at Siegburg, 43 cases, the certain result of typhoid fever, were admitted. Many of these cases are examples of Melancholia and Mania due to anæmia, and rapidly recovered. Then there are cases presenting the ordinary features of delusion about persecution, with hallucinations of hearing and (not so frequently) of sight, some cases passing into Dementia, but not complicated with paralysis.

Sydenham recognised Insanity as among the sequelæ of *intermittent* fevers. He says, "one sort of symptom, and that an important one, it may be proper to mention in this place; it yields neither to purges nor evacuants of any kind, least of all to bloodletting. In defiance of these, it even takes strength from their administration. It is a form of Mania peculiar, and *sui generis*. It occasionally follows long agues, especially if they be quartan; it stands beyond the reach of all the usual remedies. From the exhibition of strong evacuants, it degenerates into Fatuity and ends only with the life of the patient. I have often wondered that no notice has been taken by authors of this symptom, as I have observed it not unfrequently. The other forms of madness are mostly cured by means of copious evacuation, bloodletting and catharsis. This can bear none of them (Sydenham's works, Syd. Soc. Trans., vol ii, p. 93).

Pinel says, "A man of letters, accustomed to excess at table, and lately recovered from an attack of tertian fever had towards autumn all the horrible symptoms of a suicidal tendency."

Insanity as the consequence of intermittent fever has been treated by Baillarger, and in publishing an article upon the subject thirty years ago, he stated that his only object was to provoke observations and researches into the study of Insanity from an ætiological standpoint. He gives two cases which, as he states, are in accordance with the observations of Sydenham. To such cases it was objected that if they stood in any definite relationship to the succeeding mental disease, a great many more instances of Insanity should occur in ague districts than is actually the case. Further, these two patients had had previous attacks of Insanity. He admitted that further enquiry was necessary, but the fact remained that two physicians, Sydenham and also Sebastian, had met with many instances and were astonished at the silence of other medical men. M. Baillarger added a third case, a *curé* who at twenty-eight years of age had a quartan fever, which was followed by an attack of Insanity. Intermittent fevers, he observes, predispose to Insanity in two ways, first by acting like all nervous affections (ague being more allied to these than anything else), and secondly by producing anæmia.

We have seen a patient at Bethlem Hospital, under Dr Williams, in whom the mental disease appeared to be closely related to ague. The case is thus recorded by Dr Savage. Alfred D—, æt. 18, sailor. In the West Indies had an attack of "fever." He recovered, but was in feeble health, though he followed his employment and came home in his ship. As soon as he got to England he became excited and violent, threatening his father; he was sleepless and rambling in his talk, often swearing and using bad language. On admission he was a wretchedly thin, sallow boy, of a most morose temper, insolent and overbearing. He refused to be examined by the doctors, as he said "they were quacks." After being in the hospital for two weeks he had an attack of ague, and also of facial neuralgia. He was then examined and found to have an "ague cake" of large size. Quinine was given in two-grain doses every four hours, and he rapidly improved in mind and body, so that he became a most handy, useful patient, cheerful and agreeable in the extreme. He no longer had grand ideas, but began to look about for some engagement in his old profession.

In their statistics of the Bicêtre, MM. Aubanel and Thore also report a case; other cases are cited by Baillarger from Payen, Falret, and Villermay, Trusen, Nepple, and Moreau de Tours. (See 'Annales,' 1843, vol. ii, p. 372.) Hoffman has published a fatal case in the Günsburg Zeitschrift IV.

On Insanity consequent upon fever, see "Remarques sur le délire consécutif aux fièvres typhoides," par M. Sauvet, 'Annales,' 1845, tom. ii; 'Monomani-

ambitieuse survenue dans la période de déclin d'une fièvre typhoide, symptômes peu graves," par M. Leudet, ibid., 1850, tom. ii; "Recherches sur la fièvre typhoïde," par M. Louis, tom. ii; "Die Pathologie und Therapie,' &c., von Griesinger," 1861. Case reported by Dr Handfield Jones in the 'British Medical Journal,' January 12th, 1867.

Insanity with Rheumatism and with Cardiac Disease.

Griesinger directed attention to the Insanity which occasionally (he says "very rarely") arises out of acute rheumatism. After disposing of cases of Acute Delirium and Maniacal Excitement, he observes "Sometimes, under the influence of accessory causes, we see prolonged Melancholia with stupor, Mania, mental weakness, &c., occur; in short, the development of actual mental disease in various protracted forms, sometimes associated with chorea-like attacks. In these as in the acute cerebral forms of rheumatism, we frequently see the articular affection diminish, or even disappear, with the appearance of the mental disturbance, and occasionally there is an alternate improvement of the one, and aggravation of the other—sometimes even a decided retrogression of the latter on the appearance of the former" (Op. cit. Syd. Soc. Trans., p. 189).

Dr Clouston has illustrated the character and course of Rheumatic Insanity, by some interesting cases in the 'Journal of Mental Science,' July, 1870. In these, chorea* was a marked symptom, but Dr Clouston regards them as examples of Rheumatic Insanity, because they appear to have been caused by the rheumatic poison. He holds that the chorea and the mental disorder were alike effects of a common cause.

Of two cases reported by Dr Clouston we give one (abbreviated) as an illustration:—

C. M—, female, married, æt. 24, admitted January 17th, 1870.

First attack.—No relation is insane or rheumatic. Reserved and quiet in health, but nervous. Predisposing cause of attack; ill usage by her husband, poverty, cold, hard work, nursing her child for fifteen months up to the attack. Exciting

* It is unfortunate that this term is applied to such very different conditions as that here referred to and the Dancing Mania. As the Greek work (χορεια) signifies a dance, it would be more legitimate to restrict it to the latter; but it is hopeless to attempt this distinction now. The mental weakness and hysterical sensibility which frequently result from chorea, mark an affection of the mind which would now be understood by employing the term Choreic Insanity. Of Choreomania—the irresistible impulse to dance or jump—we shall speak at the close of this Chapter, under Epidemic Insanity.

cause; an attack of rheumatism, not very acute, which lasted two months before she became insane. She had pains in the back of her neck, fingers, feet, &c., which were swelled, and some feverishness, but was not confined to bed. A week before admission she quite suddenly ceased to complain of the rheumatic pains, *and simultaneously with this relief she showed signs of mental derangemen* , and violent chorea of head, arms, and legs commenced. Her first mental symptom : were a sort of absence of mind and inattention to what was passing around her, taking no notice of questions put to her, or of her children; also great excitement, tearing her clothes, &c. Quite sleepless, and the choreic movements had increased greatly in intensity.

On admission was much excited; memory almost gone; talks incoherently in monosyllables. The only question she can be got to answer is her name. Pupils contracted, equal; most violent choreic movements of face, head, arms, and legs; reflex action diminished; cannot walk; respiration 20 per minute; heart beating quickly but regularly; no cardiac murmur; pulse 108, strong; tongue clean and moist; won't take food; urine clear, acid, sp. gr. 1015; no albumen or deposits; temperature 100·4°.

Next day, choreic movements ceased in legs, which became now quite paralysed and nearly devoid of common sensibility; the reflex action in them was gone; bladder paralysed; can scarcely put out her tongue, and then with a jerk to one side; mental excitement abated, and speaks better; morning temp. 99·4°; evening ditto 99·6°; pulse 80.

She improved slowly during first week, and on the 23rd the note is made :—Takes food well, bowels regular, no sweating, mentally confused, depressed, no memory, suspicious, won't believe a word said to her, wonders where she is and how she came here; temp. 99·4°; pulse 108 in the morning. 100 in the evening. 24th.—Right knee slight swollen; has hallucinations of sight and touch, saying that an old woman comes behind her and eats her food, and that one foot has been cut off; weeps and groans. 29th.—Has had a relapse; chorea worse in left arm; pain in arms and legs; morning temp. 100°, evening ditto 99°; pulse 116. February 5th.—Can now stand, but mentally the same; morning temp. 99·8°, evening 101°; pulse 120. She gradually improved, and her temperature fell until, on February 19th, she had only very slight chorea in hands, but complained of pains in the legs. Still confused, but memory returning; temp. 98·2°; pulse 94. With some exception she improved mentally and physically, and on April 2nd, it is reported that she believes now what she is told, and is almost rational; but her right hand is swollen, though quite painless, and the chorea rather worse. She could not sleep so well, the choreic movements troubling her at night (relieved by chloral). The swelling of the hand remained for a day or two longer and disappeared. Still the reflex action in foot was diminished, and she complained of intense heat of hands. 22nd.—No chorea now except when she smiles; she then grins and looks nervous in her movements; sleeps and eats well; industrious and rational; morning temp. 98·4°, evening 98°; morning pulse 96, evening 84. Her recollection of the coming on of the disease is imperfect, and she has no remembrance of the choreic movements beginning. Her mind must have been affected quite simultaneously with their appearance or before them. 26th.—During past week has gained five pounds in weight, and is now cheerful, rational, and says she feels perfectly well. Muscles under her control.

In comparing the foregoing and the other case Dr Clouston observes :—

"The likeness of one to the other in nearly all their sym-

ptoms, in the coming on of the disease, in the choreic movements, in the paralysis of motor power, in the deadening of reflex action of the legs, in the hallucinations of sight, touch, and taste, in the want of memory, in the acute delirium with unconsciousness of anything going on around, succeeded by confusion of ideas, suspiciousness, and sluggishness of mind, the high temperature increased at night, the tendency to improvement in all the symptoms coincidently with the lowering of the temperature, and the slowness of the convalescence in both—all these things show that the same kind of lesion of the nervous system existed in both. And when this is taken along with the fact that in both patients, this train of symptoms suddenly appeared in the course of an attack of rheumatism, that in both the symptoms of the articular rheumatism at once disappeared, while *the fever did not do so*, and that in the woman, when she was nearly well, rheumatic swelling of the knuckles of one hand appeared along with aggravated choreic movements, sleeplessness, and an increase of temperature, we have very strong data, not only to conclude that rheumatism was the cause of those symptoms, but that here we have true and typical examples of a Rheumatic Insanity, which must be classed by itself as a special form of mental disease—a true pathological entity."

In the following case (a female æt. 23) which we had the opportunity of observing while she was at Bethlem Hospital under Dr Williams's care, mental symptoms arose after a severe attack of rheumatic fever and chorea. We are unable to obtain the early symptoms beyond depression, followed by occasional excitement, but when seen she was incoherent. Says, as a reason for not doing things, that it is too late. Hence cannot get out of bed; and for the same reason refuses food. Is sometimes depressed, at others, excited. Her friends stated her to be capricious, wilful, and sometimes violent, and that she thinks she does every thing wrong, and must do it over again, and that she always imagines she has something to do which she cannot accomplish, though she is never able to explain what it is. She had been at one time suicidal.

On admission she had choreic movements, chiefly of trunk, head, and shoulders; and was constantly muttering, and sometimes with her tongue out. Tongue tremulous, coated. Always required feeding. After being at Bethlem Hospital some months, and in much the same mental condition, phthisis rather rapidly developed itself, and she died of this disease two years and two months after the attack of rheumatic fever.

At the same period there was at Bethlem Hospital a girl of 17 who had chorea, but there was no history of rheumatism. She had been ill six weeks on admission, and had been in a state of great general excitement, attempting to throw herself out of the window, or shutting herself up in cupboards. Bit her mother and threatened others with a knife. Tore up her clothes and used bad language. Said her food was poisoned, and stripped herself naked and ran about in that state,

June 28th.—Remembers nothing of the facts stated. Chorea perhaps a little less; cannot keep the tongue protruded.

July 16th.—Chorea very much better. Can hold her hand still for a minute or two. No delusions. Occupies herself playing draughts.

Aug. 6th.—Much improved. To the Convalescent Home.

Sep. 5th.—Returned in robust health, and though nervous and timid seems fit for home.

Oct. 3.—Discharged well.

In a case known to the writer (that of a female, æt. 24) mental symptoms suddenly appeared a month after an attack of rheumatic fever during convalescence. Amelioration of rheumatic affection was gradual, and occurred about a week before indications of mental disturbance came on. The earliest symptom was that the patient could not bear to have her family with her; this was followed by weeping and regret; the morbid feeling soon returning, however. The head was painful; the temperature raised; appetite very bad; felt very ill, and was depressed; fretted and was supposed to be hysterical; required feeding, and seemed to have forgotten the way to her mouth or even how to swallow; became exceedingly thin, and slept but little for weeks. Would often talk incoherently and be quite lost for a time and then be quite clear; her face during the former period being flushed, and she restless. She became exceedingly weak. In about six weeks after first mental symptoms, signs of returning mental health appeared, but recovery was extremely gradual, the feebleness of mind being great. Recovery, however, was complete in about seven months after the attack of mental disorder, and eight after the acute rheumatism appeared.

This patient had rheumatic fever and extensive effusion into the pericardium about two years afterwards, but was entirely free from any mental affection. In the first attack there was neither endocarditis nor pericarditis; in the second both.

The late Dr Sibson in his article on Pericarditis, in Reynolds' 'System of Medicine,' vol. iv, p. 286, has collected together a series of cases of "Temporary Insanity with taciturn Melancholy and Hallucinations," of which the following is an abstract. In 11 cases of acute rheumatism with *pericarditis*, delirium, usually desponding and taciturn, often with hallucinations, came on when the heart was inflamed, but instead of passing away quickly, this sombre delirium lasted for from *two or three weeks to three months*. Of these 11 cases of temporary insanity, 10 recovered, and 1 died; 8 of these cases were females, 6 being below the age of twenty, and 3 were males. All but one of these patients were affected with endocarditis as well as pericarditis. The duration of insanity varied considerably, and the return to a healthy state of mind was gradual and never sharp. The temporary insanity lasted for above a fortnight in three cases; for about a month in three; for two months in one; for ten weeks in one patient whose mind was not yet clear at the end of that time; and one died with her intellect still confused at the end of two months. The prevailing feature of the delirium was a state of taciturn

melancholy. Only one patient, a young woman, the fatal case, was at times in wild delirium, at times taciturn and almost demented, and at times quiet and rational. Eight of the patients were taciturn, and two others were confused in mind or speech. Four of them had hallucinations; one saw her mother at her side; one a knife and poison; one was followed and insulted and then reached out his hand as to an old friend; and one complained of vermin. Another patient had delusions.

Besides the 11 cases with temporary insanity of a taciturn melancholic type, there were five others in which a similar condition was associated with chorea or choreiform movements (in 4), or with tetaniform symptoms (in one). Three were fatal, two recovered. All had endocarditis as well as pericarditis. The affection lasted in one of the two that recovered about a month, and in the other for a shorter period. The three fatal cases died respectively in about twenty-three, sixteen, and nine days after the beginning of the mental trouble. One was taciturn, then delirious and finally had the most violent choreiform movements ending in death. Another fatal case had difficult utterance, incoherence, tossing of the head from side to side, and choreiform spasms which put on the character of the most violent convulsions. A third case spoke loud and low, after in succession being excited and stubborn, weeping, seeing a dead man, and grimacing as in chorea. One of the two cases that recovered had a rather childish appearance, her answers were sometimes irrelevant, sometimes rational, and she had choreal movements of the right arm and leg. The last case had delirium with tetanic spasms, at first he had an excited manner, with wild rolling of his eyes, then furious delirium followed by firm clenching of the hands, sleep, and a more tranquil state. After this he was demented and violent by turns, until the twenty-eighth day after the first disturbance of the mind, when he became tranquil.

The features then that characterise these cases of temporary insanity are youth and previous good health, or in a few cases, intemperate habits, the absence of hyperpyrexia, the existence of endocarditis, the settled though varying and even intermittent character of the taciturn delirium which is present, though modified by day as well as by night; *and the dying out of the affection in a limited period.* These conditions point, not to a rapidly progressive and varying cause, which marks

hyperpyrexia, but to a continuous cause that is excited during the height of the disease, but that varies in operation for from two weeks to two months after the acute rheumatism and the acute stage of the endocarditis have passed away. In one of Dr Sibson's own cases there was embolism evidenced by the loss of power in the right side, and taciturn aphasia in combination with endocarditis; and it appears to him that in embolism of the minute cerebral arteries of the convolutions, we have a series of conditions that correspond with those occurring in the whole of these remarkable cases.

Five of the 16 cases that had *endocarditis without pericarditis* were affected with delirium of a desponding type with taciturn melancholy. Two of these died and three recovered. The length of time the mind was disturbed varied in the different cases from three weeks to four months; one of the fatal cases lasted twenty-three days, and another two months; while those that recovered were affected for one, two, and four months respectively. Four of them were restless, three were taciturn, especially during the night, another answered slowly, and the fifth case in a low voice, three had hallucinations, including one of those that were also taciturn, and two would get out of bed. Three of them were desponding or melancholy, one was apathetic, and the remaining one, a fatal case, was for ten days in a state of quiet delirium and afterwards preserved a dogged silence. Two of them were confused, and one of them was violent. If we compare these 5 cases of temporary insanity with simple endocarditis; with the 16 cases of the same class with pericarditis and endocarditis, we find that the two sets of cases correspond in their main features. Both had disorder of mind, by day as well as by night, though with greater accentuation at night in those with simple endocarditis; in both, early restlessness, obstinate silence, melancholy, apathy, and hallucinations prevailed, and in both, the affection of the intellect commenced during the attack of acute rheumatism and of the accompanying endocarditis, and lasted for a variable period after the acute affections had ceased.

Five of 38 *cases without pericarditis, endocarditis being absent or doubtful*, or 1 in 8 of the whole number, became delirious during the acute stage of the disease and remained of unsound mind for two months and a half in one, and for about a month in four instances. Two were also affected with choreiform movements. Four were men, and one a girl aged

sixteen. The speech was affected in all. Two had hallucinations; one was despondent, another after being noisy, became sulky, one was morose by day and had lively delirium; one with choreal movements, after being confused and delirious in paroxysms, became so continuously, and the fifth, also having chorea, was strange in manner. In none of these five cases was there any notable sign of endocarditis, and the disturbed state of mind and speech could not, therefore, be attributed to embolism.

Summary.—There were 27 cases of acute rheumatism with temporary insanity, and 6 of delirium, usually of the low melancholy type, in which the insanity was cut short by death. Of these 27 cases, 16 had pericarditis, 6 simple endocarditis, and 5 had apparently neither pericarditis nor endocarditis. Four fifths of the cases had endocarditis (21 to 27), and one fifth of them gave no evidence of endocarditis (6 in 27). In 6 of those cases with endocarditis, there was chorea; the insanity and chorea being probably due to a common cause acting on different parts of the nervous system. More than one half were below the age of 21 (14 in 27), and of these all but 1 had endocarditis, while one third were above 25 (9 in 27), and of these nearly one half (4 in 9) presented no sign of endocarditis. Six of the cases, all men, were either known to be of habits of intemperance or were of occupations in which such habits are possible. The temporary insanity of the four men who had not endocarditis may have been due to thrombosis (op. cit., p. 291).

In an elaborate paper on "Heart Disease and Insanity" ('West Riding Asylum Reports,' 1873), Dr Burman concludes, from an examination of a large number of cases, that the forms of insanity most commonly associated with heart disease are Hypochondriacal Melancholia; that particular form of Chronic Mania termed Monomania of Suspicion, and such modified forms of general Insanity as those in which the patients are *sullen* and *morose*, or *impulsive*; and the very great frequency of heart disease in those forms and modifications of insanity justifies a strong suspicion that it is associated with them in some *causal* relation, whether it be exciting, modifying, or predisposing, the subjective symptoms of heart disease furnishing a rich *pabulum* for the origin and growth of hallucinations, illusions, and delusions. This is, however, a matter requiring further elucidation (op. cit., p. 257).

In the cases of heart disease at Bethlem Hospital, Dr Savage has found the prevailing form of Insanity to be Melancholia. The converse does not of course hold good; there is not in all cases of Melancholia cardiac disease. Indeed, there were not more than 3 per cent. of these cases at Bethlem, in which this was found to be present; nor again has valvular disease of the heart been often observed at the post-mortems. Dr Savage gives two cases of aortic disease, and two in which other valves were diseased, all Melancholiacs; in one there was adherent pericardium following chorea and probably rheumatic fever, and aortic insufficiency; in another distinct history of rheumatic heart affection; in two others no such history but unmistakable symptoms; the only things in common being depression and valvular disease of the heart. ("Cases of heart disease with Melancholia.") 'Jour. of Psychological Medicine,' 1877, p. 165.)

Insanity and Gout.

We will here briefly refer to Insanity connected with gout —so-called Gouty Insanity.

Sydenham thus comments upon the influence of gout upon the mind:—"The body is not the only sufferer, and the dependent condition of the patient is not his worst misfortune. The mind suffers with the body; and which suffers most it is hard to say. So much do the mind and reason lose energy, as energy is lost by the body, so susceptible and vacillating is the temper, such a trouble is the patient to others as well as to himself, that a fit of gout is a fit of bad temper. To fear, to anxiety, and to other passions, the gouty patient is the continual victim, whilst as the disease departs, the mind regains tranquillity. . . . . Melancholy, so-called, is pre-eminently the inseparable companion of gout. Hence those who are liable to it are so wont to tire and overwhelm the animal spirits by long and deep thought, that excessive exertion of this sort, even without the artificial aid of reading, makes the proper preservation of the body an impossibility, for which reason, as seems to me, gout rarely attacks fools. Those who choose may except the present writer" (The Works of Sydenham, Syd. Soc. Trans., vol. ii, pp. 128, 148).

In a curious paper in the 'Harleian Miscellany,' vol. ii, p. 45, entitled "The Honour of the Gout," by Philander Misaurus,

dated 1699, the writer observes that the fact that "Gout is a perfect Deletory of Folly, prompts me to think that it would be worth inquiry, *whether the gout is not as effectual against madness; and we may reasonably believe that it is so, if upon examination, it should be found that there are no gouty people in Bedlam;* and then for the recovery of these poor creatures to their wits again, it will not need much consideration, whether they ought not to be excused the hard blows which their barbarous Keepers deal them, and the Therapeutick method of Purging, Bleeding, Cupping, Fluxing, Vomiting, Clystering, Juleps, Apozemes, Powders, Confections, Epithemes, Cataplasms, with which the more barbarous Doctors torment them, and instead of their learned Torture, indulged for a time only, a little intemperance as to wine, or women, or so; or the scholar's delight of feeding worthily, and sleeping heartily, *whereby they might get the Gout, and then their madness were cured.*"

In the case of a patient whom we have frequently seen in Bethlem Hospital, the relation between gout and the mental condition was as striking as the above writer could have wished, although we believe Dr Williams did not adopt his recommendation. For the following note we are indebted to Dr Savage. John E—. æt. 53. Pecuniary losses given as the cause of the present attack, which had lasted nine months. He was depressed from the first and had made five or six attempts at suicide, nearly succeeding in killing himself by cutting his throat. On admission he was very miserable and could not be trusted. He believed he was to be vivisected, and fancied he was constantly watched and suspected. No improvement took place for ten weeks when he had an attack of gout; *he was at once sane,* and said he felt "all right now," and that he had not been so well since his last attack of gout. He has been used to have several attacks of gout yearly, but this year had been without one, and said his lowness of spirits and delusions were due to the suppressed gout. He rapidly improved, but was kept under observation for many months, and continued well in mind, having his usual attacks of gout."

In the 'Annales Médico-Psychologiques,' 1869, Dr Bertheir records 22 cases in which the two diseases were associated. "One was a case of Stupor, 1 Delusional Insanity of a melancholy character, 2 Suicidal Melancholia, 3 Simple Dementia, 4 in which the features of the malady were not well defined, 5 Dementia Paralytica, and 6 General Mania. Of these, 8 have been observed by the author himself, and in 6 of them hereditary predisposition was ascertained. In 12 cases the Insanity was consecutive to disappearance of gout, in 8 cases it alternated with it, in 2 cases it accompanied the gouty condition. The great majority occurred among males. He draws the following conclusions:—1. If the gout has a marked action on the mind of its victims and a special predilection for the nerves, it may,

under the influence of the predisposition, become the source of every kind of neurosis, and chiefly those affecting the sight. 2. The psycho-neuroses dependent on the gouty diathesis are sometimes and more commonly metastatic and alternating, and sometimes connected with a specific condition which disposes the system to the development of a latent or larval vesania. 3. Gouty Insanity, though generally associated with fixed gout, will when its study has been completed be frequently recognised in union with wandering or anomalous gout. 4. Sometimes the gouty symptoms disappear and become lost in the Insanity, which then passes into the chronic and incurable state of Dementia. 5. Gouty Insanity must henceforth be regarded as having an established place in science and is to be classed along with dartrous, syphilitic, rheumatismal, &c. 6. It shows a preference for the form of general Mania. 7. The diagnosis of Gouty Insanity is to be drawn from the heredity, the antecedents of the patient, the connection of the Insanity with gout, and the presence in the urine of the characteristic chemical ingredients" ('Asylum Journal of Mental Science,' January, 1871, p. 616).

Outside the walls of asylums cases are frequently met with which are marked by symptoms of unfounded dread, especially on awaking from sleep early in the morning, in which there is a gouty diathesis, and suspicion is aroused that there is a causal connection between the bodily condition and the mental anguish. This suspicion is confirmed by the marked success of treatment founded upon this supposition.

Insanity associated with Phthisis.

Esquirol observed that in a great number of the insane he had seen Phthisis precede, by many months, Melancholia and even Mania, as well as appearing at the same time. Schr. v. d. Kolk, likewise, has remarked upon the close relation which exists between affections of the chest and Insanity. While disease of the heart leads rather to apoplexy, "pulmonary phthisis," he says, "appears to me to stand very frequently in close connection with Insanity. It is remarkable when in the very same family some of the children suffer from Mania or Melancholy, and the brothers and sisters who remain free from these diseases die of Phthisis. This I have observed so many times that I

cannot regard it as a mere accident. Sometimes Phthisis and Mania alternate. . . . More than once I have observed that a far advanced pulmonary Phthisis which appeared likely to lead to a speedy death, came quite unexpectedly to a standstill, so that all phthisical symptoms, the cough, the hectic fever, and so forth ceased in a short time. But thereupon a Mania or a Melancholy occurred with which the patient, who shortly before could scarcely speak on account of the violent cough and copious expectoration, breathed freely and deeply, talked without coughing, and, indeed, even shouted. If then the Mania vanished, the Phthisis immediately reappeared and probably caused death." ('The Pathology and Therapeutics of Mental Diseases,' p. 149.) Griesinger, also, refers to tubercular disease as "sometimes the cause of the development of Insanity."

Since Van der Kolk wrote, the relation between Tuberculosis and Insanity has been very carefully investigated by Dr Clouston, and a valuable article in the 'Journal of Mental Science' for April, 1863, contains the result of his investigations.

Definition.—Dr Clouston includes under Phthisical Insanity, or Mania, only those cases which died within five or six years after becoming insane, and in which the development of the two diseases was nearly contemporaneous.

Symptoms.—A table is given in the above article showing the form of Insanity on admission and at death in 282 patients who died with tubercular disease at the Royal Edinburgh Asylum.

On *admission* the form of Insanity was: Acute Mania in 34 cases, Mania in 40, Monomania in 54, Melancholia in 51, Dementia in 71, and General Paralysis in 32. Of 103 patients who had been insane only a short time—under three months on admission—30 were cases of Acute Mania, 16 of Mania, 12 of Monomania, 27 of Melancholia, 9 of Dementia, and 9 of General Paralysis.

Of the total number of cases (282) the form of Insanity at *death* was as follows:—Acute Mania 12, Mania 15, Monomania 39, Melancholia 29, Dementia 153, General Paralysis 34. Of the 103 cases just mentioned, the form at death was:—Acute Mania 9, Mania 8, Monomonia 11, Melancholia 18, Dementia 47, General Paralysis 10.

As pointed out by Dr Clouston, while the tendency of all the forms to pass into Dementia is shown by these figures, this is much less marked in regard to Monomania and Melancholia, for of 12 of the former, 11, and of 27 of the latter, 18 remained in

the same mental condition, while of 46 maniacal cases, only 17 presented the same type, the rest having passed into Dementia. On comparing these results with non-tubercular cases, it is shown that while half the tubercular cases were demented at death, only one quarter of the non-tubercular were so; only one tenth of the tubercular patients died maniacal, while there were one fifth of the non-tubercular; one tenth of the tubercular, and only one twelfth of the non-tubercular cases were Melancholiacs; one seventh of the tubercular, and only one ninth of the non-tubercular cases were Monomaniacs; and only one eighth of the tubercular, while one third of the non-tubercular, were examples of General Paralysis. An interesting fact is elicited when the Monomania of suspicion is separated from the other forms. "All the females with this form of Insanity, except one, were found to have tubercular deposit after death, while only six of the males were exempt." In cases of General Paralysis with tubercular disease Dr Clouston found that in nearly all, the Insanity had commenced with depression of spirits, many being suicidal and refusing food. If, subsequently, ambitious delusions were present, they appeared modified in character—less extravagant than usual.

Dr Clouston says that there are certain cases of which, from their mental symptoms alone, he could predict that they would probably die of phthisis. "They are not all cases of Mania nor of Melancholia, nor of Monomania, but some of them would come under one of these divisions, and some under another. There is no one symptom they have in common, and no well-defined line of demarcation separating them from other cases. There is no diathetic mark or physical sign to distinguish them, yet they take their place in one's mind as a natural group notwithstanding. If they have been acute at first—either acutely maniacal or acutely melancholic—the acute stage is of very short duration, and passes neither into a chronic stage nor into degeneration, but into an irritable, excitable, sullen, and suspicious state. There is a want of fixity in their mental condition. The intellect is not at first so much obscured, as there is a great disinclination to exert it; and there are occasional, unaccountable little attacks of excitement, lasting only a very short time, unprovoked paroxysms of irritability and passion in a subdued form. There is a disinclination to enter into any kind of amusement or continuous work; and if this is overcome, there is no interest manifested in the employment. It

might be called a mixture of Subacute Mania and Dementia, being sometimes like the one and sometimes like the other. As the case advances, the symptoms of Dementia come to predominate, but it is seldom of that kind in which the mental faculties are entirely obscured, with no gleam of intelligence, or any tendency to excitement. If there is any tendency to periodicity in the symptoms at all, the remissions are not so regular nor so complete, nor so long, as in ordinary Periodical Insanity. If there is depression, it is accompanied with irritability and the want of any fixed depressing idea or delusion. If there is any single tendency that characterises these cases *it is to be suspicious.*" Dr Clouston found that of 136 men with tuberculosis, 56 manifested suspicion; while of 146 women, 64 did so. Twenty per cent. of all the cases had hallucinations; being twice as frequent among the women as the men. The order of frequency was—hearing, seeing, smelling. Twenty-five per cent. manifested suicidal tendencies, the proportion among the general admissions at the asylum being barely 21 per cent. "In many of the cases the Insanity commenced insidiously, and showed itself by an alteration of conduct and affection, an increased irritability and waywardness and a progressive weakening of the intellect without any great excitement or depression. Some cases of the so-called Moral Insanity, die of phthisis very soon. However demented these cases of Phthisical Mania may seem to be, there are fitful flashes of intelligence, and in them, perhaps, more frequently than in any other class of cases, there is increased intelligence, and as it were, a slight unveiling of the mental faculties immediately before death."

As might be expected, patients labouring under this form of Insanity do not get stout so frequently as in ordinary Dementia. "Frequently the appetite is capricious. The pulse is generally weak, and frequently more rapid than usual. There is a want of tone and energy about the system which is very noticeable." "Phthisis is entirely latent in between one third and one fourth of all the cases among the insane, and in almost all the others, it is latent for a considerable time. This latency is most frequent in General Paralysis, in which the majority of cases exhibited no symptoms whatever."

Prognosis.—Very unfavorable as regards recovery of mental health; apparent recoveries proving only remissions. As to mortality, one half of Dr Clouston's cases died within the first

three years after becoming insane, about one quarter dying within the first twelve months. Two thirds died before the termination of six years.

Insanity after Syphilis. Syphilitic Insanity.

We observe that of 1097 patients admitted during seven years into the Rheinau Asylum near Zurich under Dr Wille (501 men and 596 women), syphilis was given as a cause, for 16 men and 12 women, being 2½ per cent. of the whole, or 3 per cent. for men and 2 per cent for women. Dr Wille believes that these numbers are quite below the proportion of cases in which syphilis is a cause of mental disease, for patients labouring under it are often treated at home or in hospitals, and with regard to those who enter asylums, it is often difficult to ascertain the fact of the patient having had syphilis. It presents itself under two forms, congenital weakness of mind, and acquired Insanity. Of the latter, Wille gives the symptoms derived from 77 cases; the most frequent being progressive Dementia with considerable loss of memory, but without expansive ideas, preceded by a period of Hypochondriacal Melancholy. When in an early and active form, it may assume all the recognised forms of mental disorder, but rarely Acute Mania. There may also be alternations between Melancholia and great mental weakness.

In addition to syphilitic pains in the head, there is frequently some lesion of the motor or sensorial centres, the character of the former being closely allied in character to General Paralysis; the latter lesion is sometimes manifested by sudden loss of sight.

The disease may come on immediately after infection, or be preceded by cerebral attacks, either of an epileptic or apoplectic character, Dementia gradually and insidiously supervening. Three forms are given by Wille,—the first, the irritative simple form, generally due to an anæmic state; the second, marked by general mental disorder due to meningitis and softening; and the third, distinguished by psychical disturbance due to circumscribed inflammatory softening, atheroma of the vessels, and gummous neoplasma of the brain and meninges (Hirn und Hirnhautgummata).

Dr Mickle in some very valuable contributions to the 'British and Foreign Medico-Chirurgical Rev.' (July and Oct. 1876 and

April, 1877) observes that the symptoms which arise from extensive syphilitic disease of the cerebral arteries are of great variety, and are usually complicated by the symptoms dependent upon the presence of other intra-cranial syphilitic lesions. The order of relative frequency in his cases was (1) convulsive symptoms of various kinds, (2 and 3) dementia and hemiplegia, (4) apoplectic symptoms, or coma, drowsiness, somnolence, especially in the latter periods; while a great variety of mental symptoms occurs in the earlier periods. Headache, aphasia, difficulty of articulation, palsies of cranial nerves are often found; and vomiting, blindness, and optic neuritis are not infrequent. The principal features are enumerated in three groups. 1. A marked tendency to mental impairment or dilapidation, the predominence of negative intellectual symptoms often associated with weakness or loss of the moral sense and a general inclination to a degraded state of feeling. In some, early or intercurrent outbreaks of maniacal symptoms occurred; in a few there was causeless depression, or fear, or emotional weakness. 2. Almost invariably motor symptoms of the paralytic or convulsive type. 3. Sensory symptoms frequent; intense nocturnal pain, especially cranial; while anæsthesia was far less frequent. Impairment of sight, blindness or unilateral deafness, were found occasionally; hallucinations rarely.

"That a patient may contract syphilis, and that Insanity may occur some weeks, months, or years afterwards, surely tells us nothing as to the ætiology of the mental affection. . . . . Where no intra-cranial syphilitic processes are developed, the origin of Insanity can rarely be attributable to syphilis with scientific accuracy; in such, the clinical features and general course of the mental disorder seem to be the same as those in an equal number of their non-syphilitic fellow patients, when the other circumstances and influences have been alike. . . When, therefore, cases are described as examples of "Syphilitic Insanity" in which the clinical features are the same as those in ordinary Insanity, where at death no syphilitic lesions are found in or about the nervous centres, and where the only evidence suggestive of syphilis as a cause, is an infection occurring previously to the onset of Insanity, it is evident that some more stringent proof of a causal relationship, must be exacted before such cases can be admitted into that category." Dr Mickle states that he has no clear undoubted cases to offer of acute mental disease, caused by syphilis, in its earlier secondary

stage, although he found acute Insanity occurring at that period of the evolution of the specific malady in several instances. There was nothing to distinguish them from acute attacks of Insanity occurring in non-syphilitic persons. Dr Mickle distinguishes cases of Syphilitic Insanity from Paralytic Dementia by the following symptoms:—1. Hypochondriacal feeling and idea are more often noticed at the very first, yielding gradually to Dementia; 2. Prior to severe apoplectiform and other attacks, the loss of memory, confusion of thought, and tendency to fatuity are less marked, advanced, and fixed, than in General Paralysis Dementia; there is more an obscuration than a destruction of mind; 3. Paroxysmal outbreaks of excitement in action and language are rather more frequent in the syphilitic cases; 4. The course of the mental affection is a more chequered and irregular one in syphilis, and is more frequently complicated by such symptoms as convulsions, spasms, paralyses, and sensorial disorders; 5. Insomnia and irritability of temper are more frequent and marked in the syphilitic cases, but to this there are exceptions on both sides. When grandiose delusions are present, cases of Syphilitic Insanity are distinguished from General Paralysis, by the history and symptoms of syphilis; the preceding cranial pains, nocturnal and intense; the exaltation less marked and perhaps less associated with general maniacal restlessness; palsies, sometimes, of one or several cranial nerves, or hemiplegia, paraplegia, &c., having the character of syphilitic palsies; the greater frequency of optic neuritis, early amaurosis, deafness, local anæsthesiæ, vertigo or local rigid contraction; the affection of articulation often paralytic rather than spasmodic or paretic, and usually speech not accompanied by marked facial or labial tremors; by cerebral or spinal meningitis; the variety of the motor and sensory symptoms, and lastly the effect of anti-syphilitic treatment.

Dr Mickle, it will be found, insists on the presence of gross intra-cranial disease as a proof of Syphilitic Insanity. At the same time, it seems reasonable to recognise the connection between syphilis and Insanity in those cases in which the latter follows the former, and the mental symptoms are relieved by syphilitic treatment. This aspect of the question has been forcibly elucidated and illustrated by a considerable number of cases by Dr Allbutt in the 'West Riding Reports,' 1873, in which he treats of the more obscure or functional neuroses of syphilis under the heads of intellectual and emotional disorders;

sleeplessness, motor defects, neuralgia, and nutritive defects, (anæmia, &c.). In all such instances, recovery under the treatment appropriate to syphilis is the rule. In the cases reported by Dr Allbutt the symptoms were, depression, fear, irritability, melancholy, delusions, the true cause being usually overlooked for a considerable period.

Of the cases of Syphilitic Insanity we have seen strikingly relieved when their true nature was detected, we may refer to several observed at Bethlem Hospital, and reported by Dr Savage. In one, a woman, the right eye was affected with external strabismus and ptosis; there was usually dulness by day, and mania by night, and she began to improve directly syphilitic treatment was adopted. In another case, a man, well-marked Dementia came on, and General Paralysis was feared; there was severe frontal headache, he was boisterous and dogmatic; subsequently, right ptosis and external strabismus appeared; he became dirty and demented in spite of specific treatment; but ultimately he recovered, and has remained well. In a third case, a man, there was right ptosis and external strabismus, optic neuritis, amblyopia, and an eruption on the face. He was treated for syphilis, and his mental as well as his physical symptoms rapidly disappeared. In a fourth case the recognition of Syphilitic Insanity proved equally important. The patient was first wildly maniacal and afterwards depressed; then he became duller and will-less, and the case seemed unpromising, when its syphilitic character was accidentally discovered; he was treated accordingly and was discharged robust and well.*

This form of Insanity has been treated of by Jessen and Esmarch, 1857; Albers, 1859; Meyer, 1861; Leubuscher, 1861; see also MM. Gros and Lancereaux, 'Des Affections Nerveuses Syphilitiques,' Paris, 1816; Dr J. F. Duncan, 'Dublin Journal of Medical Science,' Feb., 1863; Westphal, 1864; Mendel, 1868; Erlenmeyer, 1869-70; Hildenbrandt, 'De la syphilis dans ses rapports avec l'aliénation mentale;' 'Die syphilitischen psychosen,' von Dr Willie, 'Allgemeine Zeitschrift für Psychiatrie,' 1872, p. 503; 'Hirn-syphilis und Dementia paralytica,' Dr Schüle, idem, p. 605. See also Dr H. G. Stewart, 'Brit. Med. Jour.,' vol. ii, 1870; Dr Hughlings Jackson, 'Jour. of Ment. Science,' 1874; 'Lond. Hosp. Reports,' vol. iv; Dr Batty Tuke, 'Jour. of Ment. Science,' 1874, and 'Morisonian Lectures,' 1874; Dr Wilks, 'Jour. of Ment. Science,' 1874; 'Guy's Hosp. Rep.,' vol. ix; Dr Buzzard, "Syphilitic Nervous Affections"; Dr Clouston, 'Jour. of Ment. Science,' 1875; Dr Dowse, "On Syphilis as it affects the Brain and Nerves," 'Medical Press and Circular,' 1877-8.

* 'Guy's Hospital Reports,' 1878.

THIRD DIVISION.—TOXIC INSANITY.

Alcoholic Insanity.

Synonyms and Definition.—The acute form, *alcoolisme aigu.* This is understood to include *ivresse* (intoxication) and *folie alcoolique aiguë,* but practically, intoxication itself, although truly a transient madness, is scarcely in view when we speak of Alcoholic Insanity. Acute Alcoholic Insanity is here made to include *delirium tremens* or *mania a potu, phrenitis potatorum, folie des ivrognes*—the term *mania a potu* being sometimes more especially applied to attacks of mania induced by excessive indulgence of drink which do not pass into a condition of delirium tremens. The chronic form, *Alcoolisme Chronique, Paralysie Alcoolique, Alcoholismus Chronicus* (Huss), *Chronic Alcoholism.*

We have already pointed out (p. 290) the confusion often created by not distinguishing clearly between the irresistible craving for stimulants and the mental disorder which results from excessive indulgence in drink.

Huss defined Chronic Alcoholism as the "collective symptoms of a disordered condition of the mental, motor, and sensory functions of the nervous system, these symptoms assuming a chronic form, and without their being immediately connected with any of those modifications of the central or peripheral portions of the nervous system which may be detected during life, or discovered after death by ocular inspection, such symptoms, however, affecting individuals who have persisted for a considerable time in the abuse of alcoholic liquors."

Symptoms.—A transient attack of Mania may, as we have said, be caused by excessive indulgence in drink—a true *mania a potu.* Instead of Mania, the form assumed may be that of Melancholia and various other forms of mental disturbance. He may be suicidal or homicidal. He is full of illusions or hallucinations of a frightful character. He may pass into a state of *melancolie avec stupeur,* possessed by some terrible dominant delusion. After a while, the cause being removed, the patient returns to his senses, he cannot be detained in confinement, and he returns to his home, probably to subject himself to another attack.

Magnan has observed and recorded in detail the sensorial disorders which occur in Acute Alcoholism—and we shall in the

following description avail ourselves of his observations—the buzzing and sibilation, the confused songs, the sound of a clock with which the sense of hearing is disturbed, then the cries and tumultuous voices—these being, sooner or later, interpreted by the victim into definite delusions—the sound of the clock becoming a funeral knell. The cries and confused songs are insults, threats, or cries of distress, and at last reproaches, accusations, the prayers of a relative, a friend, continuous voices, distinctly articulated words. The subjective visual sensation is marked by the obscurity in which objects are enveloped, followed by sparks, flames, various colours, shadows, figures which grimace, grow large or small, vanish in the distance or approach nearer; lastly, incendiary fires, riots, battles. Sometimes the first thing seen is a dark spot, with confused outline, which afterwards becomes distinct, with prolongations, and, assuming the form of claws and a head, appears to be some animal, as a rat, a cat, or a monkey. The senses of taste and smell are often vitiated in various ways, though not to the same extent; he smells sulphur, rats, putrid matters; his food tastes of tainted meat, arsenic, vitriol, &c. Then we may have anæsthesia or hyperæsthesia associated with the sensorial disturbances. The patient feels and sees living things creeping between his flesh and skin; or he is entangled in iron wires, and spends his time in endeavouring to disentangle himself; or, again, he sees part of his body gnawed by worms and strives to rid himself of them.

At the end of a few days the disorders of the intellect disappear. Though uncertain in his actions, the sufferer answers questions easily. He talks and laughs willingly about his recent visions and delusions; but when evening comes, his confidence quits him, he becomes apprehensive, and he dreads going to sleep, at the approach of which his hallucinations return. In a few days, however, tranquil sleep returns, and he recovers.

With some, recovery is not so speedy; sleep is disturbed, the mind remains befogged, irritable, and vague ideas of persecution arise. If, at times, the patient replies fairly, ask him questions in the direction of his delusions, and they are not slow to manifest themselves. M. Magnan has observed that such cases generally owe their attack to having endeavoured to substitute wine or brandy for insufficient food.

Again, with some, there is, after the acute symptoms have

passed away, a persistence of delusions, sometimes numerous and changeable, at other times constituting monomania. Hence some become jealous and assert they have been deceived by their wives, misinterpreting everything that happens in accordance therewith. Others complain of attacks on their honour, and that people wish to ruin them. Sometimes disorders of general sensibility remain, with hypochondriacal ideas and fear of poison. This form of melancholia, partial as it sometimes is, allows of a certain mental liberty, and as it therefore more easily permits the conversion of delusions into acts, furnishes many examples of suicide and homicide.*

"Closely allied to Delirium Tremens and Dipsomania," observes Skae, "we have a peculiar form of Chronic Insanity brought on by Alcoholisation, which it would be easy to delineate, one of the most constant and persistent symptoms of which are hallucinations of the organ of hearing, which are its almost invariable accompaniment, and not infrequently Hallucinations of the sense of touch, leading to a belief in mesmeric, electric, and other unseen agencies." (Op. cit., p. 13.)

Short of decided Insanity, every one knows the injurious effects caused by frequent intoxication—the trembling limbs, the feebleness of mind, the blunted moral sensibilities, and yet the tendency to weep on the most trivial occasions. Self-respect is gone, and there is a sort of cowardice, very typical in its character, of indulgence in alcohol. Trembling of the hands also, especially in the morning, is often an early symptom. The ground is gradually but surely prepared for future attacks of Insanity; nay, in all probability the soil was, by reason of hereditary predisposition, only too susceptible to the exciting causes of mental disease.

The chronic form of Alcoholic Insanity is, in fact, an exaggeration of this condition, and may then assume a decided form of Melancholia with hallucinations, or Mania. From this the patient may recover, or gradually pass into a state of Chronic Mania with delusions or Dementia.

Of 102 cases of Insanity in which the symptoms of alcoholism were observed at Charenton, 12 were cases which presented a form of lypemania which M. Thomeuf regards as specially characteristic of alcoholic intoxication. Among the female patients he has met with two cases. These, with a case admitted into the *Maison Impériale de Santé*, amount to 15, which he

* "Recherches sur les centres nerveux." Par le Dr V. Magnan, Paris, 1876.

considers present the following group of symptoms —Obstinate hallucinations of a distinctive character, for they have this in common, the production of a painful moral impression and often even profound terror; never are they of a happy kind. In the 15 cases referred to, hallucinations of hearing were present in twelve, of sight in eleven, of touch twice, and of taste once. These affections of the senses were followed by confusion of thought, and perversion of the feelings, suicidal tendencies, tremors of the facial muscles, the tongue, and the hands, and anæsthesia of the extremities.

In other cases, the loss of motor power and the tremor of the tongue and other muscles are as marked as the psychical disorder, and justify the term *Paralysie Alcoolique*. Such cases may proceed further and become examples of General Paralysis, but in general the muscular tremors and loss of power, without ideas of grandeur, constitute a group of symptoms quite distinct from this disorder, and the prognosis is consequently different.

Chronic alcoholism is divided by Marcé into two stages, the intermediate period and the terminal period. In the former, the appetite is irregular or lost, the tongue is furred and covered with mucus, the patient vomits in the morning, and has acidity and epigastric fulness after his meals; the liver is diseased and the skin becomes sallow. Bright's disease is common, and fatty degeneration of the heart and other muscles; chronic bronchitis, hoarseness, aphonia, and atheromatous changes in the arteries, hyper æsthesia, and sensations of heat and cold, followed by anæsthesia and impotence. The sight is weakened, the pupils less sensitive, objects appear tremulous, and transient blindness is not uncommon. Hallucinations and illusions are prominent symptoms. Insects seem to fly round the patient, and hideous figures. With hallucinations are closely associated panophobia, ideas of poison, impulses to kill, commit suicide, &c. There is increasing hebetude of mind, loss of memory, and moral obliquity. Auditory hallucinations come next in order. The disorder of the motor function is shown by the tremors, forming, when extreme, "alcoholic chorea," by cramps, by occasional spasms of the respiratory muscles causing much dyspnœa, and lastly, by epileptic convulsions.

In the latter (the terminal) period, the persistence in intoxication leads, after a period of chronic mania, to dementia and to

general paralysis,* the former being determined, M. Magnan has shown, by the predominance in the nervous centres of fatty degeneration and atheroma, the latter by that of diffuse interstitial sclerosis. "Apathetic, indifferent, stupified, the chronic subject of alcoholism is regardless of his person and neglects his family; he has sunk in all his intellectual and moral faculties and is given up without restraint to the whim of every instinctive desire. It is at this moment that we repeat the proverb *Qui a bu boira*; the patient is driven in different ways, the reason being powerless to arrest his course. Abuse of liquor has become a habit; excited, besides, by his hypochondriacal tendencies, the chronic imbiber renews his excesses to relieve his misery, to regain strength, and stop the troublesome morning expectoration. The consequences are not slow to appear, the disease is aggravated; hence, the vicious circle out of which the miserable sufferer only escapes to fall into absolute dementia. In the last stage the intelligence is abolished, insensibly all the delusions disappear, and by little and little the sensorial disorder and the hypochondriasis are effaced. There may be an emotional condition analogous to that of apoplectic dements; it often happens also that vertigo, apoplectic attacks, epileptic seizures, and partial paralyses occur." ('Recherches, &c.,' par Magnan, p. 132).

The occurrence of hemianæsthesia along with motor paralysis in chronic alcoholism has been especially studied by Magnan. It is not confined to the skin, but extends to the whole mucous membrane of the affected side. A feather may be passed over the palpebral conjunctiva, sclerotic, or even the cornea without causing any pain or movement; the sensibility of the nostrils is diminished or abolished; the buccal cavity, the tongue, are anæsthetic; tickling one half of the uvula and palate excites no reflex action. There may be more or less amblyopia, and with some unilateral dyschromatopsy; the healthy eye distinguishing all the colours, whilst the anæsthetic eye confounds not only compound, but simple colours. Hearing is weakened, and there may be complete deafness. The senses of smell and taste are equally affected. The two sides of the body are equally liable to become anæsthetic, while in hysteria it is more frequent on the left side. ('De l'hémianæsthésie de la sensibilité et des sens dans l'alcoolisme chronique,' op. cit. p. 133.)

* 'Traité pratique des Maladies Mentales.' Par le Dr L. V. Marcé, 1862, pp. 615—22.

See the Chapter on Ætiology for statistics in regard to the proportion of cases of Insanity caused by different kinds of stimulants. Also 'Alcoholismus Chronicus,' Dr Magnus Huss, Stockholm, 1852. 'Recherches sur la Folie paralytique,' p. 106 ("Paralysies alcooliques"), Falret, 1852. 'Essai Clinique sur l'Alcoolisme,' M. Thomeuf, 1859. 'Annales Méd. Psych.,' Octobre, 1859, M. Legrand du Saulle. 'On Chronic Alcoholic Intoxication,' by Dr Marcet, 1860. 'De l'abus des Boissons alcooliques,' par Dr Bergeret. 'Le Démon Alcool,' par Dr Prosper Despine, 1871. 'De l'Alcoolisme au point du vue de l'Aliénation Mentale,' M. Dagonet ('Annales,' Mars, 1873). See also titles of works enumerated in the section on Dipsomania.

Pellagrous Insanity

Synonyms.—*Mania pellagria; Pazzia pellagrosa* (Ital.) *Pellagrose Insanity.*

The term is said to be derived from πελλα, *skin,* and ἄγρα, *a seizure.* The first descriptions of pellagra appear about the year 1770. In 1784 a hospital was established near Milan for those suffering from it, the disorder having become so prevalent.

It appears from a statistical table prepared by Ballardini, quoted by Dr Peacock, that the total number of pellagrose in the Milanese provinces in 1856 was 37,628 or 46·3 per 1000 of the population. Of these, 3390 or 9 per cent. were insane. It is generally admitted to be hereditary. Dr Peacock quotes Calderini's statement that of 184 families comprising 1319 persons inheriting predisposition to the disease, 648 were affected and 671 healthy, "and it is supposed the mother more readily conveys it than the father" ("Notes on Pellagra," 'Brit. and For. Medico-Chirurgical Review,' Jan. 1863).

Definition.—A mental disorder caused by an organic poison, which also affects the skin, the sensorial and motor functions, and general nutrition, in a remarkable manner.

Symptoms.—As this disease is not met with in our own country, the opportunities of seeing it are necessarily limited. We have, however, examined a considerable number of cases in Italy, especially in the asylum at Verona. The patients seen by the writer were in an advanced stage of the disease, and were all more or less emaciated, sallow, anæmic, and presenting a miserably dry, wrinkled skin. They were obtuse and inert, their mental state being that of Dementia, quiet Chronic Mania, or, in some instances, Chronic Melancholia. Not one of them was in an acute maniacal condition. At the asylum of San Servolo, Venice, which we also visited, were many pellagrose patients. We found that at the commencement of 1862 there were 82 cases of Pellagrous Insanity in the establishment, and during

the three years 1862–63–64, 150 were admitted, 114 were discharged, 37 died, and 80 remained under care January, 1865. During this period, 663 cases of Insanity of all forms were admitted, therefore about 23 per cent. were examples of Pellagrous Insanity. Of these 150, 54 exhibited the symptoms of Mania, 49 of Melancholia, 46 of Dementia, and 1 of Monomania, while at death 14 were Melancholiacs, 12 were Dements, and 11 were Maniacs. In not less than 63 cases, the parents laboured under the same disease. Eight of these 63 did not live, like their parents in the country, but were in service or artizans in the city, and better off than the peasants. We found that during eight years, 561 cases had been treated.

Dr Salerio, the Medical Director, in describing the cases admitted, observes in his Report that the aspect of the patients is very characteristic. "They are generally frightened, pusillanimous, think they are persecuted, lost, possessed with the devil, are always suspicious and yet affectionate. They refuse food and medicine, or take them with hesitation, especially in the early stage, because they are distrustful and afraid of being deceived. They have almost always a beseeching look; they frequently sigh, and dwell upon their family and their country, and many have exalted religious notions. Their tongue is usually tremulous, generally smooth, but sometimes with the papillæ raised. They walk with difficulty, saying that they feel their legs 'rotte' (feeble), and that they have no strength. They complain of feeling stupid, weak sighted, and of having a sense of weight on the top of the head, and of wandering pains. They are subject to frequent gastric disturbance and troublesome diarrhœa. When he is actually maniacal, the pellagrose patient, talking violently, with fierce eyes, and furious expression, shouts, and destroys exerything within his reach. His pulse is frequent and his skin hot. Even in this state he generally has delusions of persecution and conspiracy. On admission their friends usually state that they have attempted suicide by drowning (which some regard as characteristic of this disorder), but not homicide. It may be so, but in truth, of the large number of cases admitted in three years at San Servolo, barely seven have attempted to destroy themselves, and when asked the reason, they replied that they did not know what they were doing, but were suffering from a sense of misery which seized and utterly confused them, and a weight which oppressed their breathing. Perhaps these were only automatic acts. Of

attempts at suicide by drowning, we have no instances, although our institution is surrounded by water and the patients have all possible liberty. Indeed, those who have attempted suicide have done so by suspension, beating their heads against the wall, blows on their chest, and refusal to take food. 'Sooner die than eat,' say such. When, however, these sufferers become affectionate, they are good, docile, and obedient. Their only complaint is that they are away from their friends. Frequently have we been induced to allow them to leave the asylum, although not fully recovered, in order that they might not die of grief. Under such circumstances they become hilarious, scarcely able to hope that they will so soon return to the bosom of their family.

"If we have had the pleasure of seeing many patients discharged completely recovered—and let people say what they will, it seems to me this is strictly true, for such patients become well nourished, robust, quite sane, in good spirits, contented and able to employ themselves—why should we not, although in the course of two or three years, they will, if subjected to the same causes, relapse—Why should we not call them cured? Too many of them will, no doubt, return, and in a worse state than before, since the cause acts more readily on those who have been once affected, and will lapse into Dementia, Paralysis, or Tubercular Disease; still, in the mean time, much has been achieved."

Lombroso, the most recent authority on this disease, says:

It seems to me that one characteristic of many suffering from pellagra, even if sane, and still more if insane, is a greater moral impressionability. A slight insult, the threatening of some trivial danger, completely carries them away, although they, perhaps, appeared before to be of sound mind. For example, a woman believes herself to be lost because she has missed mass; another person is in despair and goes mad, because he has lent a pistol to a friend, who will not return it; a woman hears her companions laughing at her dress, and becomes insane from grief; another, merely because her husband, a fisherman, is a few minutes late, breaks out into violent Mania.

Perversion of the affections is rare; on the contrary, I have more frequently noted their exaggeration, so that our patients resemble those suffering from General Paralysis, who are almost always very affectionate towards their relations. Many of them complain of loss of memory and of mental weakness, which ceases when they are in bed or lying down. In a few cases, on the other hand, I have observed that the disease itself (as is occasionally also remarked in ordinary Insanity) quickens the mental faculties; this reminds me that several of the persons upon whom I experimented with the damaged Indian corn, spoke of their increased clearness of mind.

As a rule, even when the Insanity of Pellagra assumes a type, it approaches rather that of Chronic Mania and Dementia, than of Monomania; for instance, one of these patients finds it necessary to give one a card every moment, without knowing

why; they will try to conceal their names from one, or say that they are engineers, or possess landed property, though, perhaps, confessing at the same time that they are drovers, or asking for an alms." ('Jour. of Mental Science,' 1872, p. 582.) The translator of the foregoing, Dr Gasquet, adds the following additional abstract of Lombroso's description of Pellagrous Insanity —"A real or apparent stupidity, an obstinate mutism, is tolerably common, which is ingeniously termed by Lombroso 'a psychical catalepsy,' seeing that the various faculties are there, and that some accident will frequently rouse such persons from their lethargy. Occasionally the opposite extreme of gaiety and great activity may be observed; or there may be an almost intolerable repetition of some phrase, cry, or chant. Mistaken use of words and aphasia have not been noted; there is occasionally some uncertainty of speech. Many patients complain of hallucinations, evidently connected with morbid visceral states. 'They are on fire; they have dogs in their stomach; they see water everywhere; they hear voices; they are dead.' But, as a rule, their Insanity is of 'a misty, ill-defined, contradictory character, like that produced by old age or by anæmia, and differing in this point from General Paralysis.' Refusal of food is a particularly common symptom and is traceable to the various causes with which we are all familiar, disordered state of the alimentary canal, the influence of real delusions, or mere obstinacy. The most characteristic symptoms are those grouped by Italian physicians under the term 'hydromania.' In one set of cases, water is sought and desired because of the relief which a cold bath gives to the general feeling of heat and scalding. In other patients the love of water seems to be dependent upon the great pleasure which is derived from seeing its shining surface; something analogous is to be observed in young children and in demented patients. Thus, Dr Lombroso quotes one patient saying to him, 'Nothing in the world pleases me so much as a small brook or pond; when I am walking, and see any water, I cannot take my eyes off it as long as it is in sight, and at night I dream of seeing water.' Such patients are often equally fond of the sight of fire, and will burn furniture or other things in order to gratify themselves with a blaze. Sometimes, on the other hand, there is a profound dislike to the sight or touch of water. . . . The intermittence of the mental symptoms of pellagra is very remarkable, according to the period of the year.

Ætiology.—When Dr Peacock wrote the article already referred to in 1863, after alluding to the various alleged causes of pellagra, the miserably indigent condition of the peasantry (hence one term for the disease, *Mal de misère*), the malarious character of the country where pellagra abounds, exposure to the rays of the sun as maintained by M. Jolly, peculiarities of soil and climate, the character of the drinking water, the construction of the dwellings, and the use of diseased maize or Indian corn as food, he concluded that none of these causes were sufficient to explain the production of the disease except the last—the maize undergoing some change "either during growth or after being harvested." Ballardini and Costallat are quoted as referring the disease to changes in the grain from imperfect drying after being gathered; a parasitic growth being first detected by Cessati, who called it *sporisorium maydis*. Ballardini's hypothesis was not adopted by Courty, Landouzy, &c., and in this position the

question stood when we visited Italy, in 1865. Subsequently, however, Professor Lombroso investigated the subject, and he has proved experimentally that when maize is placed in damp granaries, it develops a parasitic growth, *penicillium glaucum*, and that such maize will produce, when taken, the symptoms of pellagra. (This is not to be confounded with the *smut* (*uredo*) to which maize during growth is subject.)

He administered a tincture of this diseased maize to twelve persons in good health, and with ten of these, symptoms identical with those of pellagra were induced. He gave it in the form of powder to six others, and they manifested similar symptoms. He states that these effects do not take place if the diseased maize from the granaries is boiled in lime water and then baked in an oven. It should be added that Dr Lombroso does not attribute the disease to the morbid action of the parasite itself so much as the damp corn of which it is a product, and which is sufficient to act as a slow poison upon the system.

That we have here one and by far the most fruitful cause of pellagra appears to be proved beyond a doubt. Other causes may produce it. Thus the fact remains that the cutaneous affection which is characteristic of pellagra, is to be seen in the spring and autumn in several of the French Asylums where no special diet is made use of, and where the patients have no maize corn. It should be added that Billod denies the existence of any such disease as pellagra in a strict sense, *i.e.* as a distinct affection characterised by an eruption on the skin, and the occurrence of gastro-intestinal, and cerebro-spinal affections. The latter he supposes to be entirely distinct, and the eruption to be the effect of exposure to the sun in persons in a cachectic state, in association with Insanity or not. Dr Monti in his Memoir, 'De l'état actuel des aliénés dans la province d'Aseoli Piceno,' states that of 296 patients admitted into the Asylum at Fermo which he superintended for ten years (1861–71) only three were pellagrous, although the inhabitants of the province feed almost exclusively on maize. They are provided, however, with good dwellings. It may be also that the maize is not housed in damp warehouses calculated to promote fermentation.

Prognosis.—Unfavorable. It is stated, however, that not only pellagra but even Pellagrous Insanity has been cured after lasting some years (the chief remedy employed being arsenic).

Statistics show that in a majority of cases the disease lasts about three years, but that in many instances the period is very much longer, and may be even fifty years.

The reader will obtain the most recent information from Lombroso's work and Dr Monti's Memoir, and an excellent *résumé* of what was known on the nature of

Pellagra up to 1863, in the article in the 'British and Foreign Medico-Chirurgical Review,' Jan., 1863, by Dr Peacock, 'Notes on Hospitals in Northern Italy and on Pellagra.' See also:—

'Recueil Périodique d'Obs. de Méd. de Chir. et de Ph.,' tom. ii, p. 336, containing observations of M. Thierri on a disease observed by him in Spain; Paris 1775. 'De la Folie pellagreuse,' B. de Boismont, 1834. Esquirol, 'Malad. Ment.,' 1838, vol. i, p. 593. "De la Pellagra," par Theophile Roussel, Paris, 1845. 'Dict. d'Hygiène publique,' M. Tardieu, tom. iii, Paris, 1862. 'Traité de la Pellagre,' 2me édit., 1870, Billod. 'Studi clinici ed esperimentali sulla Natura, Causa, e Terapeia della Pellagra,' C. Lombroso, Milano, 1870, and selections from it in 'Jour. of Mental Science,' Jan., 1872.

Cretinism.

See Chapter III, page 163.

In addition to the foregoing descriptions, a brief reference must be made to

Epidemic Insanity.

Closely allied with Hysterical Insanity on the one hand and Epileptic Insanity on the other, and when ceasing to be sporadic, forming the best illustration of Epidemic Insanity, is a form of mental disorder known under the various designations of Tarantism, Dancing Mania, Tigretier, Chorea-Demonomania and Choreomania, but which must not be confounded with ordinary chorea in combination with Insanity. It consists of an irresistible impulse to active movements, remarkably stimulated by music, with marked perversion of the feelings. We shall not attempt to describe even the most striking examples of this remarkable disorder, which on several occasions has deeply affected the course of political and religious national life. To do so would be to give a digest of Hecker's well-known work on 'The Epidemics of the Middle Ages,' to which and to Hæser's 'Geschichte der Epidemischen Krankheiten' we refer the reader. We gave in the last edition a narrative of Epidemic Choreomania occurring in Madagascar, but we now omit it to make room for other matter.

In addition to the works referred to, see a very interesting account by Dr Constans of the "Epidémie d'Hystéro-Démonopathie," in 1861, at Morzines, in the Department of Chablais (in Haute-Savoie), Paris, 1863. In connection with Epidemic Insanity in Man, Dr Lindsay's valuable articles on "Mental Epidemics among the Lower Animals," in the 'Journal of Mental Science,' Jan., 1872, &c., should be read.

Having now passed in review the principal Forms of Mental Disorder which have been brought forward as somato-ætiological varieties of Insanity by several alienists, we would observe how

much remains to be done before many of them can be regarded as placed upon a secure scientific basis. If the test of one of these forms be sought in similarity of mental symptoms, it certainly would fail to be found in numerous instances. Indeed, it must be that unless the cause in question induces pathological changes in the same locality of the brain, that the psychical symptoms will vary indefinitely. But putting this objection aside, some advance has certainly been made, however disproportionate it may be to the results some have supposed to be obtained, if a mental disorder can be more distinctly connected than formerly with special causes inducing morbid physical changes, a knowledge of which enables the physician to attack the disease in a scientific and not an empirical manner. The practical importance of this mode of approaching the subject has been strikingly shown in the instance of Syphilitic Insanity, for no one a few years ago would have thought of attacking the mental symptoms in Dr Allbutt's cases or in those at Bethlem Hospital, with specific remedies. Again, however small the residuum of the Forms of Insanity in question may be, the good work already done* in consequence of attention having been forcibly directed to this line of research, has already justified the path of inquiry originally struck out by Van der Kolk, Morel, and Skae.

* For example, the thoroughly scientific papers by Dr Mickle referred to at p. 386.

CHAPTER V

DIAGNOSIS OF INSANITY

No class of disease with which man is afflicted is so various in its manifestations as that known under the general term of Insanity. No diseases present such an infinite variety of light and shade belonging to their own nature, or to their intermixture with other maladies, or to the influence of temperament, of individual peculiarities of habit, or of social position; and, therefore, the diagnosis of no other class of diseases taxes nearly so much the ingenuity and the patience of the physician. The diagnosis of almost all other diseases depends principally upon weighing the evidence afforded by physical signs and symptoms, upon evidence addressed to the senses; but in mental disease it is, for the most part, dependent upon evidence which is cognizable by the intellect alone, and upon data which the senses furnish to us only at second hand. The physician is compelled to bring to this investigation, not only a knowledge of those functions which are subservient to the vegetative and animal life of the individual, but also a clear analytical conception of those which collectively constitute mind. He must not only be a physician, but a metaphysician; not, indeed, in the almost opprobrious sense of this term, but in that better sense which designates a lover of truth, seeking to ascertain, not the essence of mind or any other unattainable abstraction, but the laws of mind, which are as regular as any other natural laws, and to attain the knowledge of which offers a useful and legitimate object of philosophic research.

We adopt in this chapter the well-known classification of Insanity, into Mania, Monomania, Melancholia, Dementia, and Idiocy; not because we think this classification unexceptionable, but because it seems to be a convenient one, founded upon the most prominent phenomena of the disease, to be provisionally used, until a more scientific classification, founded upon the

pathological causes and real nature of Insanity, can be established.

The Diagnosis of Insanity presents itself to the physician either in a purely medical or in a medico-legal point of view. When the question is of the former character, upon the answer given will depend not only the kind of medical treatment, as in other diseases, but the enjoyment or the loss of the patient's liberty; inasmuch as the fact of Insanity having been once established, in the great majority of instances, the patient is not merely placed under treatment, as in an ordinary disease, but "detained under care and treatment," with loss of personal freedom, and unfortunately, also, with a certain amount of unjust opprobrium attaching to himself and relatives.

The question, as a medico-legal one, may occur either in civil suits and proceedings, or in criminal trials. In the former case, the distribution of property to a vast amount, the validity of wills, of contracts, and of other social and commercial acts, often depend upon the decision of the physician; and in criminal trials the frequent issue of the question is the awful one, whether a human life shall be sacrificed with violence and ignominy, or spared by establishing the plea of Not Guilty on the ground of Insanity.

Whether the question be purely medical, or medico-legal, in its bearings and apparent consequences, the grounds of the diagnosis must be the same. For, although in criminal trials, the nature of the crime itself, and the manner in which it has been effected, must often be allowed to have no inconsiderable weight in the formation of the judgment, yet, these circumstances are essentially no other than a part of the conduct of the patient; and the conduct must be carefully estimated, even when the question is most purely medical. But, while it is necessary clearly to understand that the principles of diagnosis are the same, whatever may be the object for which the diagnosis is required, it will be found practically convenient to consider its difficulties separately, as they occur under the different circumstances above alluded to.

We shall, therefore, in the first place, treat the question as it presents itself to a medical man called to see a patient labouring under symptoms which have caused alarm and anxiety to his friends, who are desirous to ensure his and their own safety, to provide without delay the treatment which affords the best promise of recovery, and, above all things, to have the momentous

question decided for them of confinement in an asylum, or of treatment at home. In the second place, we shall endeavour to lay down rules for distinguishing the different forms of Insanity from each other, and from those *neuroses* for which it is possible they may be mistaken. And, in the third place, we shall treat of the diagnosis of sound and unsound mind, in relation to civil capacity, responsibility for criminal actions, and feigned and concealed Insanity.

Difficulties of Inquiry.—When a medical man is called to see a patient whose conduct has excited suspicions of Insanity, before he proceeds to personal interrogation and examination, he will act wisely in making himself as thoroughly acquainted as he can attain to be, with the antecedents and the history of the patient. He will naturally expect to be instructed on these subjects, with fulness and candour, by the near relations of the patient, but in this expectation he will repeatedly meet with disappointment. The systematic manner in which members of families, often deeply tainted with Insanity, attempt to deceive both themselves and everyone else, throws no small difficulty in the way of the medical man. The dread of Insanity in many families of this kind is so great as to constitute in itself a morbid feeling sufficiently strong to mislead the observation, to warp the judgment, and to occasion sins of concealment and untruthfulness towards those who have a right to expect and to demand the fullest and most explicit confidence. The great pertinacity with which members of insane families will often deny the slightest hereditary taint of Insanity, even to a medical man called in to treat a patient labouring under the disease, would scarcely be credited were it not a matter of no infrequent experience. Much of this may, no doubt, be attributed to the sense of the shame and disgrace which has most unrighteously been connected with the idea of mental disease. But a great proportion of it must also be attributed to the unhappy fact that all the members of such families, even while they retain the full possession of their mental sanity, are not infrequently peculiar, strange, eccentric, unaccountable and by no means to be depended upon in affairs requiring the exercise of sound sense, good temper, and self-denial. In such a family, the medical man, whose professional assistance has been solicited on account of marked and obvious mental symptoms of one member of it, will often find himself surrounded by relatives of the patient from whom he can derive little information which

is unbiassed and trustworthy. He will often find the household divided against itself, one portion of it extenuating and palliating the conduct of the patient, the other exaggerating and attributing it to the worst motives. Under such circumstances, the medical man had better take things as he finds them, and listen to all parties with patience. He will be able to arrive at conclusions the more readily if he avoids all appearance of participation in the family feud. If he cannot obtain information upon which he can rely from the immediate relatives of the patient, he will do well to make inquiries, with prudence and caution, of trustworthy friends, whose evidence will often be the more truthful, as it is less subject to the bias of feeling. In this manner, the physician will be able to satisfy himself as to the existence or not of hereditary predisposition, and of previous attacks, two points of the utmost diagnostic importance; perhaps not less so than that of hæmoptysis in the diagnosis of consumption.

Diagnostic Value of Hereditary Tendency.—The degree of hereditary taint may, to a certain extent, be ascertained and estimated. Thus the Insanity of one parent would indicate a less degree of predisposition than that of a parent and an uncle, and still less than that of a parent and of a grandparent, or of two parents. The Insanity of a parent and a grandparent, with an uncle or aunt in the same line, may be held to indicate even stronger predisposition than the Insanity of both parents. The influence of the Insanity of parents in creating a predisposition, will depend, to a great extent, upon whether it has taken place before or after the state of parentage commenced. The Insanity of a parent, occurring after the birth of a child, if it arose from a cause adequate to excite it, without previous predisposition, would of course be held as of no value in the formation of hereditary tendency. The Insanity of brothers or sisters may be of much or of little value, as evidence of predisposition, according to the circumstances under which it has shown itself. If several of them, both older and younger than the patient, have become insane, the fact tells strongly in favour of predisposition, although neither parent nor grandparent may have been lunatic; since it is well known, that other conditions in the parent, beside that of actual Insanity, may create this predisposition; for instance, violent and habitual passion, the debility of old age, and, most of all, habits of intemperance at the time of procreation. The Insanity of cousins cannot be

said to be worth anything as evidence of predisposition, except in corroboration of nearer and weightier facts.

It will thus be seen that the evidence of hereditary predisposition may be of such a character as to render the Insanity of the patient an event in the highest degree probable; or, on the other hand, it may be so weak as to add a scarcely appreciable amount of probability to the character of the disease.

Of Previous Attacks.—The value which ought to be attached to evidence of previous attacks of Insanity is considerable, since few diseases more frequently recur than those which affect the mental functions of the brain. A slight and transient attack, however, respecting the real nature of which there may have been some differences of opinion, will be of very different import from a prolonged attack of decided character. Moreover, the greater the length of time which has elapsed since any previous attack has been recovered from, the less will be the value of it as an indication of the nature of the existing disorder.

Of Change of Habits and Disposition.—Besides these two important points of hereditary predisposition and of previous attack, the physician must inform himself respecting the habits, the character, and the disposition of the patient. In doing so, he must bear in mind that they will influence his judgment in three ways. In the first place they will enable him to form an opinion as to the kind of man which the patient has been when in health, and as to the greater probability of his having become the subject of mental disease or of some other disorder, as, for instance, of a chronic attack of drunkenness, or if a woman, of hysteria. The disposition and character when in health, would be of considerable value as evidence, if the physician could know them from personal observation; but descriptions can scarcely be given with sufficient lucidity to render any opinion formed upon them of equal importance. An alienist physician of judgment and experience might be able to point out, in the circle of society with which he is acquainted, nearly all the men who are very likely to become insane; but were he imprudent enough to make known this invidious prescience, it would be found that his judgment differed widely from the opinions on this subject which are current in the world. It would be found, for instance, that his prophecy would not often rest upon those men who are called eccentric. Eccentricity more frequently depends upon a disregard of public opinion, in trifling and non-essential matters, than upon any twist or perversion in the

mind of the individual. The eccentric man is often a large-hearted and courageous man, and as such, one of the last to become insane. The ominous forethought of the physician would rather rest upon the man over-susceptible concerning the good opinion which others may entertain of him; the suspicious and timorous man, who hears scandal before it is spoken, and apprehends the commencement of every possible mischief; the man who has not at the bottom of his heart a sincere liking for his fellow-creatures, but who is querulous and contentious, and who perpetually finds himself in disaccord with the world; also the over-sanguine man full of fickle confidence. These are the types of men whom predisposing and exciting causes are most likely to plunge into Insanity.

In the second place, these inquiries will enable the physician to compare the present behaviour and habits of his patient with those which existed in a state of health; to contrast him, as it were, with his former self, a proceeding which often affords a most satisfactory evidence of morbid change. It must be borne in mind, that in Insanity the natural character of the patient is either changed or exaggerated. When simple exaggeration has taken place—when a man who has all his life been intemperate, or passionate, or gloomy, has merely become more intemperate, outrageous, or desponding, the change will have been, in all probability, unobserved for a much longer period than when an actual alteration of character has taken place; and even when observed, this exaggeration of natural character is less readily attributed by friends and relatives to the effects of Insanity, than in the other case. The physician, therefore, finds it more difficult to obtain satisfactory evidence of the influence of mental disease, when it only exaggerates the natural character, than when it changes it. And when he is able to obtain such evidence, he will very frequently find that the disease has already been of long standing; an unhappy circumstance, attributable to the insidious manner in which it progresses when it takes this form. When, on the other hand, the natural character of the patient undergoes a change, the event is generally too remarkable to escape early observation. When, for instance, the man of sober and steady habits becomes intemperate and dissipated; when the prudent and careful man suddenly becomes rash, speculative, and extravagant; when the moral and religious man enters into courses of dissolute and shameless impropriety; when the carefully nurtured and modest female

demeans herself in a bold, forward, and indecent manner, the contrast is so great, that it arrests the attention at an early period, and seldom fails to satisfy the friends of the patient that it is occasioned by disease.

At first sight, the two modes in which Insanity announces itself by its influence on the character appear to be essentially different. On a nearer view, however, it will perhaps be found that the difference is more apparent than real, and that in those cases where the greatest alteration of character seems to take place, the real effect of the disease has not been to develop that which did not exist before, but merely to remove the checks and restraints which have kept it in subjection. A passionate or dissipated man merely becomes more passionate or dissipated under the excitement of incipient Mania; just as he would become so, for a time, under the excitement of intoxication; his natural character has never been under control; and, therefore, morbid excitement removes no previous restraint. But it is otherwise with persons whose natural propensities are restrained by moral and religious principles. There is a latent devil in the heart of the best of men; and when the restraints of religious feeling, of prudence and self-esteem, are weakened or removed by the operation of mental disease, the fiend breaks loose, and the whole character of the man seems to undergo sudden and complete transformation. Every medical man has observed the extraordinary amount of obscenity, in thought and language, which breaks forth from the most modest and well-nurtured woman under the influence of Puerperal Mania; and although he may be courteous and polite enough to join in the wonder of those around, that such impurities could have entered such a mind, and even for himself repudiate Pope's slander, that "every woman is at heart a rake," he will nevertheless acknowledge that religious and moral motives alone are efficient in suppressing the sensuous tendencies of the female constitution.

In estimating exaggerations or alterations of character, the physician must be careful to make allowance for those which take place naturally and in healthy minds. It by no means follows, because a person has become "a changed man," that he must therefore be an insane man. The nature of the change must be estimated with careful reference to its apparent cause and character. For instance, if, in the midst of prosperity and domestic happiness, a man underwent a change from a joyous

and lively disposition to one of gloom and wretchedness, without any other apparent cause than the influence of predisposition to Insanity, the change would justly be held to be one of the most serious and ominous import. But if predisposition did not exist, and if heavy losses or domestic afflictions afforded a reasonable cause, such a change might take place without exciting the slightest alarm on the score of impending Insanity. Great changes often do take place in the character of individuals, and in their habits of life, without the slightest suspicion of Insanity. For instance, when a dissipated and reckless young man is brought under the influence of strong religious convictions, the external manifestations of his character undergo a complete change. On the other hand, a youth who has been brought up in the strict observance of a rigid religious discipline without appreciating the principles upon which it is founded, when the repressive influence of parental or other authority is removed, may undergo an opposite change of character, and become thoroughly dissipated, without affording any indication of mental disorder.

In this exaggeration of character, also, the natural influence of circumstance must be allowed to have its due weight. Thus, particular callings and professions have a strong tendency to develop particular characteristics. If, for instance, a clergyman acquired arbitrary and dictatorial habits, or a physician became particularly intemperate or jovial, such developments of character would have a very different significance from that which would attach to them, if the first had occurred in a sea-captain, and the last in a publican.

One caution is necessary in estimating sudden and remarkable changes of character, namely to be on guard against the vagaries of hysteria. The hysteric temperament, in either sex, often produces the most extraordinary changes in apparent character; but they are changes in appearance only, and the versatile subject of them who is "everything by starts, and nothing long," remains essentially the same fickle, superficial, deceptive being, under all phases of character.

In the third place, a careful inquiry into the habits of the patient will often enable the physician to discover an adequate cause for the production of Insanity. It will often, for instance, make him aware of habits of intemperance, which are an amply sufficient cause; or of habits of strong mental excitement, such as those afforded by gambling, whether it be of the unlawful sort

or the legal gambling or rash speculation; or it will indicate to him religious and social habits and practices testifying to the existence of that fanatical temper, and those peculiar views, which statistics prove to be highly influential in the production of mental disease.

Such a preliminary inquiry will also make the physician aware of family feuds and dissentions, and it will instruct him on many other matters of the like kind, which it is absolutely essential that he should know, before he can weigh all the evidence of his patient's Insanity, with that nice discrimination which the delicate and difficult nature of the inquiry frequently demands.

Although we have not yet introduced the physician to his patient, we have, nevertheless, engaged his attention in matters which will greatly assist his judgment. Thus, if he is informed on credible testimony, that the parents or grandparents have been insane, that the patient has beforetime undergone attacks of Insanity, that his character has recently become changed in a notable and strange manner, and that, moreover, he has been intemperate, or subjected to some other influence capable of exciting mental disease; if all, or part of these circumstances have been ascertained, the physician will find the further examination, and the formation of his ultimate judgment, infinitely more easy than if he had entered upon it without such previous instruction.

Manner of Examination.—In the personal examination of the patient, the greatest tact and discretion are required. A physician called to treat any bodily disease, at once commences with direct and pertinent questions; but, in all difficult cases of mental diagnosis, such a proceeding would surely defeat its ends. The physician often indeed finds some difficulty in contriving to be introduced to the patient, and in commencing a conversation without bringing about the éclaircissement which, above all things, is to be avoided. If the patient is strongly pre-occupied with a delusive idea, or by maniacal excitement, of course no difficulty will exist; and sometimes, in cases of Melancholia, the patient will himself be most anxious to consult the physician on his mental state. But, when the disease is in the incipient stage, and when the patient is suspicious and hostile, the matter of introduction and the opening of conversation require much tact, and sometimes a little contrivance. In cases of bodily disease, it would not be unusual or improper for the physician to commence with, "I am sorry to hear from

your good lady, that you have lately been troubled with shortness of breath, and pain in the chest, &c." But if the alienist physician were to open the campaign after this fashion, with, "Sir, your wife informs me that you have lately been subject to fits of ungovernable passion, alternating with despondency, &c.," the patient would probably turn the flank of the mal-adroit physician, or, at least, beat a hasty retreat. We cannot go so far as to assert, that small deceptions must never be practised; such, for instance, as apparently calling in the physician to see another member of the family, affected with a convenient illness; but of this we are convinced, that the discovery of even the slightest deception, will have a prejudicial influence on the future treatment. In almost all cases, the physician may readily enough engage the attention and the goodwill of the patient, if he commences with sympathising inquiries respecting any bodily symptoms and ailments, or respecting any matters in which he can ascertain that the patient takes a lively interest.

The physician will rarely act with wisdom, if he at once assail the citadel of the disease. He must first endeavour to occupy the outworks. His efforts must be directed to placing himself on good terms with his patient. For this, only general directions can be given. He must employ that tact derived from good sense and knowledge of mankind, without which he will find himself lame and impotent in this field of medical practice. By the time that a good understanding has been established between the physician and the patient, the former will have obtained, from the various sources which we have specified, information of the utmost importance for the guidance of his interrogations. If he is so unfortunate as to have absolutely no history of his patient, he will have observed in him one of four things, either—firstly, a vacant and meaningless expression, and a childish absurdity of action, the sign of Dementia, of Imbecility, or those of General Paralysis; or, secondly, a facial expression of deep and concentrated sorrow; or, thirdly, indications in physiognomy, or demeanour, of strangeness and irregularity; or, fourthly, no outward indication of mental disease. In each of these facial divisions, a somewhat different method of interrogation has to be pursued.

In Melancholia, the patient is often only too ready to converse on his mental symptoms. In Imbecility, and early Dementia, his apprehension is not sufficiently alert to place him on his

guard; and in Mania, he either suffers from head-symptoms, respecting which he will readily converse with a medical man, or his mind is actively engaged on some project or object, which will afford the physician appropriate materials for conversation. The most difficult cases are those in which differences of opinion and of interest exist among the members of the patient's family, and the patient has quietly been told that it is wished to prove him insane, and to place him under confinement, and that the doctor is coming to examine him for that purpose. Under such circumstances, which are by no means uncommon, the physician must do the best he can; and, if this is but indifferently well, he must content himself with the reflection that the fault is not his.

Peculiarities of Residence and Dress.—Immediately that the physician finds himself in the presence of his patient, "the facts observed by himself," upon which alone the law very properly insists that the diagnosis of Insanity shall really be made, will require the keenest exercise of his perceptive and analytic powers. Of course there are a great number of cases in which the existence of Insanity is so evident, that, strictly speaking, diagnosis becomes quite unnecessary. When Insanity has assumed so marked a form, that, as Mrs Page saith, "any madness I ever yet beheld seemed but tameness, civility, and patience to this distemper he is now in," the question of diagnosis gives way to that of treatment. But, in slight cases, and in early stages of the malady, the symptoms are by no means invariably conclusive, or even satisfactory. The physician will, therefore, do right to avail himself of every circumstance which can assist him in forming a correct judgment; even, as, in the diagnosis of phthisis, the evidence afforded by auscultation and percussion does not justify him, where any doubts exist, in neglecting to examine the state of the hair, the finger ends, the gums, or any other part of the body capable of affording corroborative testimony. On entering a house in which the head of the family is supposed to be insane, the physician will not unfrequently find his attention attracted to many little circumstances, testifying to a want of order and direction in the household affairs. In the room principally occupied by the patient, things are especially found to be out of place; *bizarreries* often present themselves in the decoration of the walls and the arrangement of the furniture. A short time since, on visiting the house of a gentleman on whose

mental condition we had been called upon to report, we remarked, among other things, a number of trumpery clocks. There were seven or eight of them in the hall, diligently at work to show the hour of the day, but all of them, like Charles the Fifth's timepieces, entertaining individual and very different opinions on that important point. In fact, the variation of time indicated by them extended to full three quarters of an hour. In reply to a remark, the owner of this array of pendulums told us that it was a great point with him to know the precise time, and that he bought all the clocks, at auctions and elsewhere, which he could obtain under a certain sum; he had so many clocks because, if one did not go accurately, another might. When told that a really good timepiece, purchased with the collective price of his trumpery horologes, would give him much more reliable information than all of them put together, since, if any one of them did by chance go accurately he could not tell which it was, he evidently conformed against his will, and retained his own opinion still. A love of order is rarely seen among the insane, except in some chronic cases where it has been acquired under asylum discipline, and the residence and room of the patient often bear traces of disorder; articles of clothing are scattered around, everything is disarranged, and the dress and person of the patient often bear evident marks of want of care and cleanliness. In fact, the description given by Rosalind of a lover, would have been much more true to nature if applied to an insane person—namely, "a lean cheek, a sunken eye, an unquestionable spirit" "then your hose should be ungartered, your bonnet unbanded, your sleeve unbuttoned, your shoe untied, and everything about you demonstrating a careless desolation." This description was, very likely, taken from the negligent dress of the insane, since the witty speaker, immediately afterwards, expresses her opinion, "that love is merely a madness, and deserves as well a dark house and a whip as madmen do." When Hamlet first affected madness, he went—

> "With his doublet all unbraced,
> No hat upon his head, his stockings loose,
> Ungarter'd and down-gyved to his ankle."

In erotic madness, indeed, the dress is not as fair Rosalind would have it, careless and disordered, but generally the contrary, and often fantastic, arranged with care and with the evident desire to attract admiration.

The patient's dress not unfrequently presents characteristic traits indicating the direction of insane delusion; for instance, in Ambitious Insanity it is made to ape the military or the regal cut, if the patient thinks himself a great general or a king. But these indications belong to a later period of the disease; and it may be taken as a general rule, that in the earlier stages of mental disorder the dress and personal condition of the patient are neglected. Sometimes there is great intolerance of dress, the patient seeming to suffer irritation from the customary articles of clothing. The propensity to remain wholly or partially naked is frequent, and owes its origin to various causes. A young lady may desire to live in the primitive simplicity of paradise; or she may think her body invisible, and wish to remove the gross envelopes which would render this corporeal translucency of no avail; or, clothing may be thrown off and destroyed out of mere mischief and destructiveness; or, the sensibility of the skin may be greatly enhanced, and the warmth and friction of clothing may cause much annoyance.

The physician's observation of the negligences, inconsistencies, vanities, and various peculiarities of the patient's dress will proceed concurrently with the more important observation of his appearance, demeanour, and conduct. The appearance of the patient will depend upon the expression of his physiognomy, the traits of temperament, the bodily conformation and condition, and the habitual postures and gestures. The whole of the above may be classed under the terms, appearance and demeanour. That which the patient says and does we may distinguish as his conduct.

Peculiarities of Bodily Condition.—The bodily condition of the patient, in regard to plumpness or emaciation, the state of the skin, the pulse, and the tongue, rarely affords information of any practical value in the question of diagnosis. The instances are so numerous in which the mental functions of the cerebral hemispheres may be greatly disordered, while the functions of all the other bodily organs remain healthy, that the deviations of the latter from the normal state cannot be relied upon as trustworthy data in the formation of an opinion as to the existence of mental disease. It may be laid down as a general rule, to which, however, there are numerous exceptions, that the insane do not possess robust bodily health. The early stages of Insanity are very frequently marked by emaciation, occasioned by loss of rest, wasting of the tissues from increased

activity of the mental and bodily functions, and derangement of the alimentative processes.

This emaciation is one cause of the alteration and sharpening of the features which so often take place. When, however, the process of mental disease is gradual and insidious, especially if it arises from a strong predisposition, and without the intervention of disease in any of the organs subservient to the vegetative life, there may be little or no emaciation at any period. During the later stages of those forms of mental disease which are characterised by diminution or loss of power, it is well known that the body is often inclined to obesity.

Little reliance can be placed upon the indications either of the pulse or of the tongue, although in the early stages of Insanity the former is generally quicker than in health, and the latter is not unfrequently coated with a white central list. The skin is very generally harsh and dry, and not unfrequently affected with eruptive disorders. It is exceedingly rare to see a person in the early periods of Insanity, with a thoroughly clear healthy complexion.

The point of most importance to be attended to in the examination of the patient's bodily condition, is to ascertain whether any diseased condition of any of the organs exists, which may have been the remote cause of the malady. Disordered states of the abdominal viscera are of such frequent occurrence, that the veteran Jacobi, and some other physicians of eminence, have believed that they altogether account for the causation of mental disease. We are far from being able to concur in this narrow view of the ætiology of Insanity; but no physician of much experience in this department of medical science will be likely to deny that disordered states of the stomach, the intestines, and the liver, do frequently constitute the remote causes of cerebral disease. The indications, therefore, of gastric and hepatic disorder observable in the tongue, the skin, and the nutrition of the body, are signs of the existence of this cause. It is as yet very uncertain whether diseases of the heart and of the lungs often operate as remote causes of Insanity. In our opinion, the probability is against this supposition, notwithstanding the numerous instances in which these organs are found to be diseased in persons dying insane. But there can be no doubt that uterine disorders constitute one of the most frequent remote causes of Insanity with which we are acquainted. If, therefore, the physician can ascertain that

his patient has suffered, or is suffering from gastric, hepatic, intestinal, or uterine disorder, he will have discovered a well-known and frequent cause, the existence of which must be allowed to exercise its due influence in the diagnosis.

Peculiarities of Gesture.—The features and gestures of the patient are oftentimes strongly expressive of mental disease. The muscular system is the bond of connexion between the mental functions of the cerebrum and the external world. It is the muscular system which executes the commands of the brain, and interprets its desires and its passions. Strictly speaking, changes in the physiognomy and in the vocal articulation must also be referred to this source; but it is convenient to consider them apart, and at the present time to direct attention to those grosser muscular actions which are commonly understood as the postures and gestures of the body. These are generally more pronounced and more expressive in Insanity than in health. In artificial states of society, the sign-language so commonly employed by the savage or the man of nature to express his feeling and his wants, is discontinued; speech is perfected, and articulate or written language becomes the sole medium of intercommunication. Gesticulation, as a means of communicating thought, has been found to be too demonstrative, too simple, and perhaps, also too true to be convenient for the use of man in that state in which it has even been said by a keen observer, that "the use of language is to conceal thought." But children, savages, and especially the deaf and dumb, converse by the sign-language of gesture; and the insane man, removed from the restraints imposed upon him by so-called civilisation, returns to the state of the child or of the savage, and expresses his desires and his feelings by the sign-language of nature. The pantomime of the insane is often perfect. It cannot be called acting, since it is real; and hence arises the most frequent cause of failure in attempts to simulate Insanity. The counterfeit madman, acting the part which he assumes with grotesque clumsiness, generally leaves a wide and easily detected interval between himself and the real lunatic.

In order to describe all the postures and gestures of the insane it would be necessary to dilate upon all the resources of pantomimic expression. It is however, unnecessary to enlarge upon this subject, since every member of the human society is compelled to study both the language of gesticulation and that of facial expression, from earliest infancy; and there are

few men who do not become adepts in interpreting the signification both of look and gesture. A man who can appreciate the different mental conditions designated by the terms sadness, melancholy, despondency, despair, will find no difficulty in the interpretation of the sign-language by which they are outwardly expressed. Sadness he will expect to see manifested by simple repose and quietude of manner; melancholy, by quietude deepening into immobility, with clasped hands, bowed head, and heavy step, and the desire of solitude; in despondency he will see an exaggeration of all these characteristics, the posture often crouching and bent together, like that of a person suffering from cold; while, in despair, the extremity of mental agony acts as an excitement, and the sufferer, is stimulated into action, or he is held rigid in the cramp of intense fear.

A wide difference intervenes between the commencement of Melancholia, in which it may be said of the patient,

> "There was a listening fear in her regard,
> As if calamity had but begun,"

and the extreme of mental agony, which produces reaction, either in the form of the most painful and dangerous excitement, or of concentrated suicidal purpose—"the resolution of despair." The gesticulation of intense Melancholia if often wild and frantic.

It will be needless to detail the various *modes* in which emotion depicts itself, in motion and attitude, in Partial Insanity. This is not different from what occurs when the same emotions are excited in a healthy brain, or the difference exists only in degree. Pride, anger, fear, sadness, jealousy, and all other passions, find that appropriate and distinctive expression which the language of poetry can alone describe with adequate force and truth. The unvarying and intense expression of any one emotion is oftentimes an indication of Partial Insanity.

When the attitude is restless, the motions quick and vivacious, and expressive of various and changeful emotions, a state of Mania or General Insanity is indicated. Melancholia is, on the contrary, known in some of its phases by fixed attitudes and slow gestures; in others, by gestures of earnest supplication and intense dread; or by the reckless wildness, or strained resolution of despair. Imbecility and Dementia are marked by slovenly postures, and by undecided and aimless movements, indicating that both the action and the repose of the muscles

are under feeble and inefficient direction. All these details it would be wearisome and useless to dwell upon; but the alienist physician must have his eye open to seize upon their diversities, and his mind apt and prepared to appreciate them. In the early, and indeed in all stages of Insanity, it is often upon the collective evidence of things, individually unimportant, on which the judgment must be based.

The Physiognomy of Insanity.—The extreme distortion of face produced by Acute Mania, or Melancholia in its highest degres, is easily recognised. It may, however, be needful to distinguish it from the expression of cerebral inflammation, or of fever. The distinguishing characteristics of cerebral inflammation attended by maniacal symptoms are, a greater suffusion of countenance; a firm knitting of the brows expressive of intense pain, and a fierce, prominent, and bloodshot eye. It is in meningitis, rather than in Mania, that it may be truly said—"And each strained ball of sight seemed bursting from his head." The patient suffering from acute cerebral inflammation has a ferocity of aspect, rarely met with in pure Mania. The stage of effusion in meningitis, and all the stages of some forms of deep-seated cerebral inflammation, in which the meninges are not affected, require to be distinguished from Dementia, rather than from Mania. The history of the case, however, and the affection of the muscular system in phrenitis, will generally render the diagnosis easy.

The aspect of countenance in the delirium of fever is sufficiently different from that of Mania, to afford valuable aid in the discrimination of these two conditions. In fever, whatever may be the degree of excitement and the amount of delirium, the countenance indicates low emotional force. In the delirium of Mania, on the contrary, the expression of emotional force is highly exaggerated. This difference is very marked in the expression of the eyes and the mouth. Whatever may be the character of febrile delirium, the expression of the eyes is comparatively devoid of meaning; the muscles of the mouth, although relaxed, are devoid of mobility. The muscles of the face, like those of the body in general, are greatly deficient in power and tone; and the features, which are controlled by the facial muscles, are relaxed and without expression. If there is any mobility of the facial muscles, it is tremulous and feeble, indicating want of power; whereas in Mania, the play of these muscles is full of expression and purpose. It is vigorous and

tense, and plainly marks a concentration uf nervous force. The deepening wrinkles on the face of a patient suffering from the delirium of fever, are the result of emaciation; those which furrow the face of a maniac are to a greater extent caused by the tense contraction of the muscles of expression.

Lavater recommends the student of physiognomy to commence with the insane, because they will afford to his art extreme and crucial instances.

We think that, in this instance, the acute founder of physiognomical science has not displayed his usual clear-sighted perception of the correct order of observation. To commence the study of physiognomy in a lunatic asylum, would be not less impracticable than to study physiology in the first instance by means of pathology. It would have been as irrational to expect that the functions of the lungs could be discovered by the inspection of a piece of hepatized pulmonary tissue, as that the signs of natural expression could be determined solely by the observation of that which is strange and unnatural. It would seem that, in all departments of investigation, it is right to commence with the study of that which is most normal, simple, and regular; and from thence to proceed to inquiries respecting that which is unusual, and irregular. Notwithstanding Lavater's recommendation to his followers, we much doubt whether he ever himself pursued his physiognomical researches in the wards of a lunatic asylum. His nearest approach to it appears to have been a careful study of the insane productions of the painter Fuseli. He speaks of madness as an entity, the presence of which may possibly be discovered by some single mark or token in the lineaments. Actual researches in a lunatic asylum would have speedily undeceived him on this point. It may positively be asserted, that any one totally ignorant of the right meaning to be attached to the different expression of the human face, would find himself more perplexed in the wards of a lunatic asylum than in any other place in the world, because he would find every variety of expression in every degree of intensity, without the existence of circumstances corresponding to, and explaining the physiognomical signs. Our own advice, therefore, to the student of physiognomy, would be the converse of that given by Lavater; and we are prepared to affirm, that no one can become proficient in the recognition of the facial expression of the various forms of Insanity, who has not acquired

a considerable amount of physiognomical tact by his intercourse with the sane portion of mankind.

If we may trust the description transmitted to us by dramatists, poets, and painters, the facial expression of Insanity was much more intense in the olden times than at the present day; and the idea entertained of a madman by the public, is more frequently taken from such descriptions than from personal observations. We have seldom been more amused by the disappointment of a friend, than we were by that of an accomplished gentleman, who has now, for some years, made it his business and his delight to read Shakspeare to the English public. After patiently examining the numerous inmates of the Devon Asylum, he pronounced his opinion that they were all "stale, flat, and unprofitable." Doubtless they were so in his point of view, for he said, "Where is the poetry of madness? I see none of it—no flashing eyes, no foam on the mouth. Why, your people are as sober and respectable as a vestry meeting!" It was a great artistic disappointment; but rather flattered than abashed, we admitted that, since the insane had been treated on rational and humane principles, they had ceased to offer the best and most constant examples of exaggerated passion. But even did it continue to exist, the mere expression of intense and uncontrollable emotion would not, in itself, be a symptom of Insanity; for emotion is often both intense and uncontrolled in those who are undoubtedly sane. Since, however, Insanity is, by common consent, acknowledged to betray itself by the facial expression, it becomes necessary to inquire what are its true physiognomical symptoms.

It would be tedious and unprofitable to dilate at length upon this subject. Its importance, indeed, cannot be easily overrated; but the art of physiognomy cannot be taught in dissertations or treatises. Like the art of judging of the weather, acquired by the mariner and the sportsman, its only school is the wide field of observation. A few principles may, indeed, be laid down, by which observation may be rendered more easy. They are, however, but few, and the exceptions to their application are frequent.

The expression of the physiognomy in a sane person is compounded of intellectual, emotional, and propensive expression. Intellectual expression may be divided into that which is sensational, or perceptive, and that which is reflective, the first is marked by the obvious activity of the organs of sense, especially

by that of the eye, and by a certain fixedness of the features, indicating concentrated attention. The reflective expression, on the other hand, is marked by the more or less complete inactivity of the organs of sense, accompanied, however, by the same fixedness of feature, which, in this instance, betokens concentration of attention upon an internal subject. It would seem, that a purely intellectual expression, of either kind, must be unalloyed by traces of emotion. But, on the other hand, a physiognomy indicating the presence of strong emotion, may, nevertheless, be highly intellectual. An ample brow, a clear and steadfast eye, a firm and well-proportioned mouth, so constantly accompany a high degree of intelligence, that they are almost instinctively recognised as the signs of its presence, even although the features may be deeply marked by tokens which indicate the existence of one or more of the passions.

The emotional expression of the physiognomy is not capable of so simple a description and classification as the intellectual. The distinct emotional expressions are as numerous as the emotions themselves. They may, however, be conveniently classified into those which are expansive, and those which are depressive. To the former usually belong the feelings which are generous and honorable; to the latter, those which are selfish and mean. The former are generally accompanied by feelings of well-being, or happiness; the latter, by those of suffering. Some exceptions, however, exist. Pity, for instance, is a generous but painful emotion.

The expressional impress of strong animal propensities, or the absence of such expression, is a point of the highest importance. The sensual expression of physiognomy is not much modified by any one prevailing instinct; it is, however, greatly modified according to the presence or absence of intellectual power. Without the latter, the facial indications of powerful and unrestrained instincts often profoundly degrade and brutalise the human face. When, however, they are conjoined with intellectual power, strong propensities often appear to lend force and energy to the character; and by the union of the two, the facial expression is wholly redeemed.

The student of the physiognomy of the insane must, above all things, endeavour to separate and to distinguish the three elements of expression above named, and to estimate the degree in which they severally exist. Having done this, he must bend all his powers of perception and discrimination to the character

which prevailing emotion has stamped upon the physiognomy. In persons of placid temperament, and especially in the earlier years of life, the facial traces of emotion may be so slight as to defy the keenest scrutiny. But after the middle period of life, the habitual emotions become stamped in legible characters upon the features of almost all men; and in the rare instances where this is not the case, this fact in itself becomes a key to the character, pointing to an extraordinary absence of passions and desires, or a still more extraordinary control over their external manifestation. Insanity anticipates the effect of years, and prematurely impresses upon the human face the strong characteristics of habitual emotion. In the youthful insane, the facial lines of anger and pride, sorrow and fear, are more deeply cut than in sane persons of advanced years; and in a mature or aged lunatic, they are often displayed in an exaggerated degree rarely observed in persons of sound mind. It will be foreign to the object of this work to descant upon the minutiæ of physiognomical expression; for these, the student must consult works devoted to the subject, and especially those of Lavater, the astute and laborious founder of the science. It will be sufficient, in this place, briefly to refer to the most obvious physiognomical signs.

When the plicæ of the forehead are longitudinal, regular, and broad, they indicate a calm and reflective character; when tortuous and abrupt, they indicate the prevalence of angry emotion. The scowl of anger must be distinguished from the heavy brow of melancholy; in the former, the eyebrows are forcibly approximated; in the latter they simply droop. The various expressions of the mouth and nostrils must be duly estimated. The dilated nostril of pride and scorn must be distinguished from that of fear. The compression of the lips and corners of the mouth, indicates resolution or obstinacy, disgust and aversion; their mobility on the other hand, satisfaction and amiable feelings. The vivid and changeful expressions of the eye are so subtle, that they will scarcely submit themselves to verbal description; but the steadfast gaze of pride, the languishing look of desire, the thwart glance of distrust, the glare of rage, characteristically express themselves in a manner which it is impossible to misapprehend.

In judging of the insane by their facial expression, the physiognomical characteristics are, in many instances, exactly

similar to those observable in the sane; the intensity of expression being frequently exaggerated.

In a great number of cases, however, a remarkable peculiarity is observable in the physiognomy of the insane; this consists in a want of accord in the expression of the different features. This is often remarkable and characteristic, and reminds one of those children's toys, in which the upper and lower halves of painted figures are separable, and capable of being joined in fantastic reunion. Thus, the lower face of an alderman may be added to the upper face of a handsome woman; or upon the simpering mouth of the latter may be superadded the stern brows of a soldier. The effects produced by this amusing toy are only exaggerations of what may be observed in the insane. The expression of mouth often gives the lie to that of the eye and the brow; and while the whole features are full of expression, it is often impossible to designate truly that which is expressed. This is, perhaps, the most characteristic peculiarity of the insane physiognomy, since it is only observed among the insane. It is, however, frequently absent in them; and the patients in whom this peculiarity is strongly marked, are certainly less numerous than those in whom it is absent. Its presence, therefore, as a symptom of Insanity, is of considerable value; while but little weight can be attached to its absence.

Another peculiarity in the physiognomical expression of the insane, is the apparently causeless and motiveless play of feature which is frequently remarked in them. This is only observed in Chronic Mania, and in the earlier stages of Acute Mania; and conjoined with the last-mentioned conditions, it occasions that state of facial expression upon which the popular idea of a madman's look is founded. These changes, although apparently causeless and motiveless, are not so in reality; they are, indeed, a reflection of those rapid changes in the emotional state, which often exists in Mania.

The physiognomical expression of the insane must be studied with reference to the form of disease. Thus, in Melancholia, the facial expression is emotional; while in Mania, it is emotional and intellectual, and is marked by the characteristics of changeableness and inconsistency above described. In Dementia, on the other hand, all expression has disappeared, the vacant stare and the meaningless lineaments indicating the loss of thought and of desire. It is only necessary, in this place,

briefly to advert to the great peculiarities observable in the face of general paralytics—the trembling lips, the drooping brows, the features expressive of a mixed state of imbecility and excitement, the eyes with pupils of unequal size, together afford to the experienced alienist, unquestionable testimony of the existence of this most hopeless of maladies.

The mental physician who is a good physiognomist (and none can practise his art satisfactorily and successfully unless he is so), when introduced to a patient suspected to be insane, must diligently study the features in conformity with the above principles. He will very frequently find his opinion strongly influenced by the impression which the looks of the patient make upon his experienced judgment; and upon this ground alone he will, in numerous instances, be able to surmise, not only that the patient is insane, but the general form of the Insanity under which he labours; at least this will be the case in numerous instances of incipient Mania, in Dementia, and Paralysis. The cases in which the looks of the patient will often defy the scrutiny of the physician, are those of Monomania or Partial Insanity, and of Melancholia. In cases of Partial Insanity, where the delusion or delusions are not of a kind strongly to implicate the feelings, the mental disease frequently leaves no trace whatever on the physiognomy, and the looks of the patient are exactly those of a sane man. In the earlier and middle stages of Melancholia, also, the physiognomical expression of sadness is often not to be distinguished from that of natural and healthy grief. The extreme anxiety and wistfulness of Acute Melancholia, and the dark shadows of the severer forms of Chronic Melancholia, are, however, not to be mistaken. With the above-named exceptions, the physician will derive invaluable aid from the physiognomical study of his patient. The information thus derived he must immediately turn to account, in the conduct of his interrogation and conversation.

Demeanour towards the Patient.—In observing the patient's expression, demeanour, attitude, &c., the physician will do well to avoid a marked and obvious attention; and in passing from ocular observation to conversational investigation, the more quietly and naturally he conducts himself, the more likely he is to succeed in disarming the suspicions of the patient, and in discovering his real mental state. Much has been written about the manner and mode of address which it is desirable to put on

in intercourse with the insane; but many of the insane are themselves acute observers, quick and ready to see through the mask of an assumed manner. A physician, therefore, who feels that it is needful for him to assume towards the insane a manner foreign to his natural disposition, will do well to keep out of their way, and to direct his attention to other branches of professional practice. A quiet and self-possessed manner is most successful with the insane, but it is only successful when it is natural.

Diagnosis of Dementia.—In the mature stages of Dementia, when the patient can neither understand nor answer a simple question, of course interrogation is both unnecessary and impracticable; but in the early stages of Primary Dementia, the task of ascertaining the extent of mental debility is not unattended with difficulty. In this form of disease, there is little in the patient's conduct or demeanour to assist the judgment of the medical man; the physiognomy, indeed, is silly and expressionless; the eyes have a meaningless look, and easily and frequently suffuse with tears; and a vacant smile plays upon the lips. The features, however, are often fixed in meaningless apathy. In this form of disease, the mind suffering from deprivation and not from aberration of function, it becomes needful only to test the degree in which the functional power has been lost. This must be determined by testing the three fundamental functions of mind—namely, those of attention, memory, and comparison.

The inattention of Dementia is widely different from that of Mania. When brought to the test of repeating any statement, madness "gambols" from re-wording the matter. Dementia does not gambol; it halts, or stands stock still. The fault of attention in Mania arises from the "thick crowding fancies," which prevent the mind from dwelling upon any one object in a manner to fix the attention. An object is seen clearly, although but for a moment. In Dementia no object impresses a distinct idea upon the perception, although the attention may have dwelt upon it for some length of time. The test devised by the English law for Idiocy, namely, the appreciation of number, is a useful one in the early stages of Dementia. It is remarkable at how early a period of the malady patients lose not merely the power of understanding anything like an intricate account, but the value of very simple numbers. To this fact are to be attributed many instances of reckless expendi-

ture and apparent prodigality in persons becoming insane. Other instances of this kind arise from aberration of the judgment, and loss of power to estimate consequences; and others from a morbidly active state of desire; but in the early stages of Dementia, in the Dementia of old age, and in Imbecility, the patient becomes an easy prey to designing persons, from the weakened power of attention, and the consequent inability to estimate the value of money.

The power of memory depends, in a great degree, upon that of attention. A thing which is well observed is well remembered; while circumstances to which the attention has not been energetically directed hold in the memory but a feeble and treacherous place. It is partly to this that must be attributed the well-known peculiarity in the memory of persons suffering from the Dementia of old age. The vivid impressions of early life are easily recalled, while the recent ones of declining age leave no traces in the mind. It must not, however, be supposed that the powers of the memory can only be enfeebled in this secondary manner. The memory is itself a cerebral function, and so purely is it a cerebral function, that some metaphysicians, who strenuously deny this attribute of all other mental powers, concede it in regard to the memory, and in this manner endeavour to establish an alliance, or a compromise, between the physiological and the spiritualistic theories of the mind. The memory, then, is without question a function of the brain, and cannot fail to suffer injury from any lesion to which its organ is subjected. It is, as we have seen, impaired in a secondary manner, from enfeeblement of the attention. That it is also primarily injured in Dementia, is proved by the fact that, when peculiar circumstances have excited the attention to energetic exercise, and have occasioned passionate emotion, the memory, although in a less degree, is still feeble and treacherous.

It is remarkable that, in those forms of cerebral lesion which are characterised by enfeeblement and decay of the mental functions, the highest of these functions, namely, the judgment, suffers to a much less extent than either the attention or the memory. The fact is abundantly verified by experience, that in persons whose general powers of mind are in an advanced stage of decay, the judgment often remains sound, as far as its condition is capable of being investigated. It is difficult to bring the comparing faculty into play, because it is difficult to present to it ideas representing the things to be compared. The

attention and the memory having failed, the scales of the mental balance remain empty; but if, by adroit management, these scales can be loaded, it is found that the adjustment of the beam remains correct. This remarkable circumstance forms a point of distinction between simple Dementia and Mania. In Mania, attention and memory are often vigorous, but the comparing faculty is deranged.

In Dementia the emotional functions suffer, but in a less degree, and at a later period, than the primary intellectual functions of the mind. In the cerebral decay of old age, which may be taken as the type of Dementia, the nobler and more complicated emotions of manhood give way to those of a more rudimentary character; and the state of mind, from this change, derives its popular name of "second childhood."

When ambition, patriotism, love, and friendship have suffered decay, and the ennobling influence of the intellectual faculties has been abstracted from the character, the simpler kinds of emotion which have become habitual during life, exercise a more open and unrestrained influence upon the individual. It is the habitual influence of these kinds of emotion which especially forms what is called the disposition. If this has been what is called good, the Dementia of disease, or of "second childhood," will be placid and amiable; if, on the other hand, the habitual emotions have been of the egotistical and irascible kind, the state of Dementia will be marked by anger easily roused, or fretfulness, and by a discontented selfishness. In persons of really evil disposition, the mental decay of old age is characterised by a hideous display of malignant feeling. The proverb says that very old women are either angels or devils.

It may be laid down as a general rule, that in pure Dementia the sexual instinct is greatly weakened or destroyed. This will be found to be the case even in instances where indecent conduct is observable. Such conduct, on a strict scrutiny, will be found to arise, not from activity of the instinct, but from the loss of modesty and from inability to appreciate the rules of decorum. In those cases of senile Insanity which are attended by lascivious conduct, the form of mental disease more nearly approaches that of Mania than that of Dementia. There is a mixture of the two states; but the maniacal element preponderates.

Primary Dementia.—There is, perhaps, no form of mental disease in the early stages of which it is more difficult to form a decided opinion than in primary Dementia. This difficulty

arises from the frequent absence of several indications which render valuable assistance in the diagnosis of other varieties of Insanity. The demeanour and conduct of the patient are often very slightly, if at all, changed; there is nothing strange in his appearance, no *égarement* in look or manner. The facial expression, indeed, is often weak and undecided in conversation; the attention is found to be feeble, but not wandering; but the earliest and most trustworthy symptom is loss of memory. The physician will often find that, in the course of conversation, the patient forgets what he has been talking about a few minutes previously, and that he has not the slightest recollection of the events of the previous day. This form of disease very rarely comes on without a decided exciting cause; and the opinion of the physician will often be facilitated by testimony as to the existence of such a cause, and enfeeblement of the faculties resulting from, and speedily following it. The most frequent causes of primary Dementia are injuries of the head and attacks of apoplexy; the causes next in frequency are fever and emotional disturbances, especially grief. It may be thought wrong to classify Dementia as primary, when it follows apoplexy. Classifications of this kind, however, derive their value from their utility; and it is convenient to classify as primary all cases of Dementia which are not the sequelæ of other forms of mental disease.

In primary Dementia, the difficulties of the physician are increased by the absence of any form of delusion—namely, of illusion, hallucination, or delusion proper.

In many instances the most experienced physician will not be able, conscientiously, to give a decided opinion in the early stages of this malady. Its increase, however, is generally certain; the attention becomes more and more enfeebled, until even the sensational indications of the bodily wants cease to be observed, and the patient if neglected, lapses into what are called dirty habits. In its mature stages this form of disease is recognised with the greatest facility.

Secondary Dementia.—We restrict the term consecutive, or secondary Dementia, to that form of disease in which the mental faculties are left enfeebled and decayed by the subsidence of the more acute forms of Insanity. Dementia of this kind differs in various respects from Primary Dementia. The most remarkable point of difference is occasioned by the intermixture of the primary disease with its results. Dementia of this kind

is compounded of the remains of Mania or Melancholia, and their effects. There is an extremely wide range in the degree and manner of this intermixture; a concrete case may present all the features of Mania, with the slightest possible indication that the cerebral functions have passed into a state of permanent decay. Another case, on the other hand, may present the utmost degradation of mental power, with but slight remaining traces of maniacal excitability or perverseness. In this variety traces of delusion are common. In the transition of Mania into Dementia the character of the prevailing delusion not unfrequently undergoes a change; the delusive ideas become less complicated and imaginative. The existence, however, of delusion of some sort is very common, although it is more difficult to detect, in consequence of the patient having lost much of his communicativeness and demonstrativeness. Another feature which distinguishes secondary from primary Dementia, and which is still more frequent than delusion, is the continuance of an exaggerated state of emotional feeling. It is, unfortunately, a matter of daily observation in the wards of a large lunatic asylum, that when the storms of Mania have permanently injured the functions of the brain, painful or malevolent emotions frequently survive the decay of the intellectual faculties. It is this fact which renders the facial expression of so many chronic lunatics at once stupid and vicious; the features continue to be distorted by anger, hatred, or fear, long after they have ceased to be illuminated by the rays of reason.

Under the humane and judicious treatment which now prevails in lunatic asylums, this peculiarity in the physiognomy of secondary Dementia is infinitely less frequent and less pronounced than we remember to have seen it, from ten to fifteen years ago; or that is delineated in the engravings of Morison or Esquirol, and to a still greater extent in the paintings of Hogarth and Fuseli.

Even in Cibber's well-known statue of Dementia, while the tongue is lolling from the mouth, in the very extreme of intellectual degradation, there is still a fierce scowl upon the brow. This statue, which is reported to have been copied from the actual condition of a lunatic in the wards of Bethlem, a man who had been Oliver Cromwell's porter, represents, in an exaggerated degree, the peculiarity of facial expression to which we desire to direct attention. Cibber, however, would not, at the present day, find it easy to procure such a model, faithfully

and painfully expressing, not only the effects of disease, but those of cruel and brutal treatment.

The entirely different treatment which now prevails has not changed the pathological fact, that in secondary Dementia the emotions survive the intellectual powers. It has, however, altered the character of these emotions; and, in a great number of instances, it has succeeded in substituting amiable and agreeable ones for those which are painful and malevolent; and in other instances of success less complete, it has, nevertheless, mitigated the intensity of feelings of the latter character. The most indubitable testimony with which we are acquainted, of the immense change which has taken place in the condition of lunatics, is afforded in the entirely different facial expression of lunatics, as they were painted and described by our forefathers, and as they are observed by ourselves. The old treatment converted the insane patient into a ferocious, malevolent, and repulsive being, who, in his turn, excited the horror and disgust of those who trembled to feel themselves his fellow-men.

To return from this digression to the practical question of diagnosis, the physician will find his task greatly more easy in the secondary than in the primary form of Dementia; the history of the case will rarely fail to afford him substantial grounds for the formation of a decided opinion. The history of a prolonged or of a violent attack of Mania, followed by a gradual change of symptoms, the principal feature of which was the substitution of enfeeblement for perverse activity of the mental functions, can rarely leave doubt as to the nature of the case. If, however, the physician is unable to obtain any history of his patient—if, for instance, the patient should be a wandering lunatic, without relations or friends to give an account of his antecedents, the physician will, nevertheless, find little difficulty in recognising the existence of secondary Dementia. The feeble power of attention and memory will be observed as in the primary form of the disease. But, in addition to this, the physician will mark the strange want of accord between the intellectual and emotional expression of the physiognomy; and by following this clue, he will rarely fail, by interrogation, to elicit those traces of the earlier mental disease which combine with mere intellectual debility to form the peculiar disease in question. He will discover various emotions capable of being easily and unreasonably excited; he will find

anger or affection, confidence or distrust, devotion, pride, or rapacity, excited without motive, or by such as to a sane person would be altogether insufficient. Moreover, he will, in numerous instances, be able to discover the existence of delusions; delusions, indeed, which form but a pale reflex of those absurd convictions which carry the monomaniac or the maniac along with irresistible force; but delusions, nevertheless, absurd ideas the result of disease, and the proof of its existence.

When the countenance of a demented patient is in repose, there is frequently no trace of mental infirmity upon it. But, when the attention is roused by a question or an incident, the idiotic expression becomes at once apparent; this sudden change of facial expression,—from that which might belong to a sane and intelligent man, to that which characterises low Idiocy—is a good diagnostic mark of Dementia. In true Idiocy the mental defect is impressed upon the countenance at all times.

Diagnosis of Mania.—Mania is the term applied to that large class of mental disorders in which the functions are in a state of excitement, and their mutual dependence and proportion disturbed. It embraces forms of disease so widely apart from each other that, in treating practically of its diagnosis, it will be essential to make some classification. For practical purposes it will be sufficient to distinguish its forms into those of *Acute Mania,* comprising cases which present recent and active symptoms; *Chronic Mania,* in which acute symptoms have given way to others of a more tranquil and permanent kind; and *Incomplete Mania,* corresponding to the "manie raisonnante" of the French, and embracing those anomalous and undeveloped forms of mental disorder in which uncontrolled propensities and extraordinary conduct are prominent symptoms.

Acute Mania.—The recognition of Acute Mania is as easy as that of imperfect Mania is frequently difficult. Few diseases have their character so legibly stamped as that of raving madness.

The physiognomy of Mania has already been commented upon at sufficient length. The expression of wildness, distraction, or anger, is often varied with that of mischief, lasciviousness, or fear, and strong emotional excitement of some kind or other is rarely absent from the facial expression of the maniac.

The physical symptoms are by no means constant, and are of little value diagnostically; the face is pale or flushed, the skin

dry and harsh, and the bowels constipated, the pulse accelerated, the tongue bearing a whitish fur, the breath offensive, saliva increased and frequently spit out, the urine loaded with phosphates, &c. But any or all of these symptoms may be reversed, and any, or all of them, may, and often do occur in diseased conditions where there is no affection of the mental faculties. In the treatment of Insanity, all the signs of physical disturbance merit careful attention, but in the diagnosis their value is exceedingly small. Almost invariably, in Acute Mania, there is loss of sleep, a diagnostic symptom of the utmost value between the real and the feigned disorder. The acute maniac will often pass five or six days without any sleep, and five or six weeks with only three or four hours of sleep at intervals of several days. An impostor, feigning the violent form of madness, cannot refrain from deep and regular slumber, which falls upon him with the more certainty as he exhausts himself in his efforts of spurious fury. The impostor, moreover, cannot feign the physiognomical expression of Acute Mania, or at all events, he cannot maintain it for more than a few minutes. A man may imitate frantic gestures, or shout gibberish, without difficulty, so long as his physical strength enables him, but he cannot maintain any look expressive of strong emotion unless he has practised the histrionic art with great care and success, for while the voice, muscles, and those of the limbs, are readily exercised in sole obedience to the will, those of the countenance are too much the involuntary exponents of emotion to carry the mask of deception without constant effort or practised skill. Conversation, properly so called, is always difficult, and often impossible, with an acute maniac. In many cases the mind is so much occupied by delusive ideas, that only a few disconnected words can be elicited ; more frequently, however, Acute Mania is accompanied by garrulity ; and this is especially the case when the exaggerated emotions are cheerful and expansive. This form of Mania often exists without prevailing delusion, and the patient rambles on in his talk through a strange medley of boasts, promises, and threats, oaths and obscene remarks, in a manner which renders it easy to understand why M. Falret should suppose it possible that in this condition there is a spontaneous creation of ideas.

The restless and ever changing condition of the mind expresses itself as strongly in action as in vociferation and wild words. The patient is always in movement, running,

dancing, gesticulating, embracing, or fighting with those around him, displacing or sometimes breaking furniture, and evincing in manifold ways the restless activity of the muscular system. It is probable that this impulse to action is not entirely dependent upon the condition of the brain. The nervous system generally is in a state of excitement, causing an incontrollable desire to expend its energies in excessive muscular action. This restlessness, however, is not met with in all cases. In gay Mania, in Mania with fear and anxiety, it is common; but in morose and sullen Mania the patient will often retain one position for a considerable time. But even under such circumstances, the clenching of teeth and hands, and the half involuntary movement of the limbs, evidently restrained with intention, indicate strong impulse to action.

The condition of the mental faculties, in Acute Mania, presents the widest differences. In many instances, no trace of delusion can be discovered in a patient who is vociferating, swearing, laughing, reproaching, in constant movement, and without sleep. Such a patient's answers and remarks are sometimes found to have a certain kind of cleverness and shrewd appreciation of all that is taking place. The attention skips from object to object with *choreic* rapidity and abruptness, causing exaggerated and absurd emotional states, but, in many instances, not falsifying the judgment. In most instances, however, delusions and hallucinations exist, and the task of detecting them is not difficult; for in this form of disease the patient is so demonstrative that he usually dins his delusion into your ears.

Hallucinations appear to be more frequent in Acute Mania than delusions proper, and also more frequent than they are in any other form of Insanity. Hallucinations of sight are most common. In Acute Mania, patients see the Deity, angels, and devils; hear music and voices; and have a hundred hallucinations of the same sort, far more frequently than in other forms of Insanity.

Little address is required on the part of the physician, to make himself acquainted with the intellectual and emotional perversions of these demonstrative patients, or to decide as to the existence of disease. The conditions with which it is possible that Acute Mania may be confounded, are drunkenness, delirium tremens, the delirium of fever, and inflammation of the brain and its membranes.

To distinguish Acute Mania from the ordinary cases of excitement from intoxicating liquors, it will be enough to observe, that the drunkard can be recalled to a sense of his position, that his excitement soon passes into drowsiness and tendency to coma, and that he has no real delusions or hallucinations. Frequently also the stomach is deranged, and the intoxicating liquid can be smelt in the breath. The mental symptoms of ordinary drunkenness are mild and pale when contrasted with those of Acute Mania. But there is a form of drunkenness in which the distinction from Mania is difficult, and not always possible. Persons who have suffered attacks of Insanity, sunstroke, inflammation of the brain, or wounds of the head, are liable to a train of symptoms when they become intoxicated which are identical with Acute Mania. Drunkenness of this kind is not to be diagnosed from the disease under consideration; it is, indeed, the disease itself, so long as it lasts. The symptoms often, but not always, subside when the alcoholic stimulus has passed out of the system. The cause of the maniacal symptoms, and their short duration, are the only indications that this condition is a dangerous variety of drunkenness.

Another variety of delirium from drink is only to be distinguished from Mania proper by a knowledge of its cause. It is the delirium which sometimes comes on at the termination of a long debauch. When a man has been drunk for many successive days, a form of active delirium occasionally supervenes, in which the symptoms resemble those of Mania, and not those of delirium tremens. This delirium is caused by excessive alcoholic stimulation, and not by the withdrawal of stimulus, as in delirium tremens. The countenance and conjunctiva are congested, the pulse is full, the skin is hot, and the delirium is loud and violent. There are no symptoms so far as we are aware by which this form of delirium can be distinguished from Acute Mania, but it runs a shorter course.

The diagnosis between Delirium Tremens and Acute Mania can be made by observing in the former the peculiar muscular tremor, from which it derives its name, and the more remarkable and distinctive feature presented by the character of the illusions and hallucinations, which are always fearful, and of a pursuing and persecuting character. Snakes are about the bed, robbers are breaking into the house, fiends are getting in at the window or down the chimney. Or if there is no decided

hallucination of this kind, there is an anxious desire to do some particular thing, generally connected with the ordinary occupation of the patient. In delirium tremens the skin is cooler and more clammy, the pulse is more feeble, the tongue more white and tremulous, than in Acute Mania.

The diagnosis of meningitis from Mania is made by observing in the former premonitory rigors, and excessive cephalalgia, followed by acute febrile disturbance of the organism, a bounding pulse, a hot and dry skin, a prominent and bloodshot eye, a contracted pupil with a great intolerance of light, accompanied by a fierce delirium, in which illusions of the senses are common. In Acute Mania many of these symptoms are often absent, and those which do present themselves have much less intensity than in cerebral inflammation. In cerebral inflammation, the tendency to muscular exertion, so common in Mania, is absent, or only demonstrates itself in brief actions instigated by the delirium. The emotional disturbance is less remarkable than in Mania. The affection also tends rapidly to terminate in recovery or in death. In the latter case convulsions supervene, the pulse becomes rapid and small, the pupil dilates, the skin is covered with clammy sweats, and the vital powers gradually fail. Death may also come on more rapidly from coma. This rapid sinking is not observed in Mania. Some patients do indeed die suddenly from what is called maniacal exhaustion, the immediate cause of death being syncope; but even in these cases the course of the disease is more prolonged than in fatal instances of cerebral inflammation.

The only forms of mental disease for which acute mania may be mistaken are Acute Melancholia, and the excitement which occurs in some instances of General Paralysis.

Between Acute Mania and Acute Melancholia no distinct line of demarcation can be drawn. The domains of the two diseases overlap so much, that in practice, cases not infrequently present themselves which may with equal propriety be referred to the one or to the other; these cases we may call Acute Mania with melancholic depression, or Acute Melancholia with maniacal excitement. The typical forms of the two diseases are, however, sufficiently distinct. In Acute Mania the emotions are expansive, and when not decidedly gay they tend to anger rather than to sorrow, and intellectual perversions are common; but in Acute Melancholia the prevailing characteristics are self-depreciation, terror at some evil which is thought to exist, or dread of

something which is impending. The thing feared may or may not have an existence; if it has no existence, the fear of it may be a delusion; but beyond this Acute Melancholia is frequently unattended by any perversion of the intellectual faculties.

The maniacal excitement which attends General Paralysis is distinguished by the muscular tremors of the tongue and lips, by the catch of the voice, and the other symptoms which accompany this insidious disease; and also by the peculiar nature of the delusions, which, in the great majority of instances, run upon the possession of vast wealth, power, strength, or rank. The excited state of General Paralysis, which may be mistaken for Acute Mania, rarely lasts more than from ten to thirty days. After that time the excitement subsides, while the delusions and the muscular symptoms remain, and the nature of the disease becomes apparent.

Chronic Mania has to be diagnosed from malingering, from eccentricity, or from sanity. There are no non-mental diseases for which it can be mistaken. The symptoms of Chronic Mania present themselves in such infinite variety, that it is extremely difficult to round them within the compass of a description which will be sufficiently brief for the purpose of comparison. Chronic Mania in the sense in which we use it, as distinct from incomplete Mania, is in most instances the remaining result of the more acute form. It represents the rudderless and shattered state of the vessel after the tornado of raving madness has swept by. The wreck is left in every variety of condition; sometimes with sail enough to keep her head to wind; sometimes she lies upon the waters, a log, in the helpless state of consecutive Dementia. In Chronic Mania of this kind there is always more or less of Dementia; and the loss of mental power is to a great extent diagnostic between Chronic Mania, which is consecutive upon Acute Mania, cerebral inflammation, or typhus, and Chronic Mania which has resulted from moral shocks or from physical causes less injurious than the above to the organic integrity of the brain. Chronic Mania, which has not passed through the acute stage, frequently presents a remarkable vigour of the intellectual functions, in so far as they are not affected by delusion. Patients with this form of disease not only retain the perceptive faculties in all their activity, but the memory, also, is found to be tenacious; and even the judgment, on matters unconnected with the delusive opinions and perverted emotions peculiar to the case, may be found to be not greatly affected.

It will be asked, how such a case is to be distinguished from one of Monomania? and, in truth, the distinction between the two is not very observable in practice; though, if we accept the current descriptions of Monomania, the distinction would be easy. It is unnecessary to embarrass our present subject by discussing the real existence of book-drawn Monomania; for the present purpose it is sufficient to observe, that primary Chronic Mania runs insensibly into the nearest approach to Monomania with which we are acquainted. In some cases of Chronic Mania the delusions are numerous; in others they are few; in others there is but one; one, however, indissolubly connected with other grave lesions of the mental powers. There is always grave emotional perversion.

Incomplete Primary Mania is often to be recognised by the existence of a decidedly abnormal state of the emotions and sentiments, without marked intellectual lesion. This symptom is more constant and valuable than any other; the difficulty lies in proving the abnormality. When friends and relatives are detested and abused, and the objects of natural affection are overwhelmed with invective, when all things sacred are made the subject of blasphemy, it is easy enough to point to the moral perversion which has taken place. But the slighter shades of perverted emotion require all the adroitness of the experienced alienist to detect. Absurd opinions are generally coexistent and allied with perverted emotions. Very frequently they appear to be consequences. It is not easy, however, to prove which is the first phenomenon in the series of causation. When a mother, for instance, detests her child, and believes herself to have been poisoned by it, it is not easy to demonstrate whether the false belief arises from the perverted emotion, or the contrary. However this may be, perverted emotions are constant and delusions proper are frequent symptoms in Chronic Primary Mania. Hallucinations and illusions are more rare. Hallucinations present themselves more frequently in consecutive Chronic Mania, in which the intellectual functions are permanently weakened.

These are general rules, to which, however, exceptions are by no means infrequent. One important exception is presented in the frequency, in primary Mania, of hallucinations referable to the patient's own body, and dependent upon peculiar states of pain, or palsy of feeling, owing to abnormal conditions of the nervous system or of the viscera; as when living animals are

supposed to occupy the various cavities of the body, in consequence of sensations of pain and fluttering, or irregular internal movements caused by chronic inflammations or cardiac palpitations, or intestinal flatulence, or cramps, or when various parts of the body are supposed to be converted into inanimate substances, in consequence of palsied sensation.

The only disease we have known to be mistaken for this form of Insanity is exaggerated *Hysteria*. The diagnosis must be made by observing the sex, age, constitution, and character of the patient, which, to the experienced physician, will generally reveal the nature of hysterical attacks, whatever form they may assume. They do sometimes assume the form of Mania, with violent general excitement, and strongly pronounced moral perversions. These may be looked upon as the proper symptoms of the disease; but hysterical patients have been known to feign delusions and hallucinations, just as they will feign everything else. The hysterical type of the patient, the paroxysmal nature of the excitement, and the contradictions in which she may be detected when closely examined upon the circumstances of her supposed delusions, will rarely fail to detect the comparatively harmless nature of the affection. This will be the more easy if the effect of remedies appropriate to hysteria can be tried. But hysteria does sometimes pass into real Mania, and carry with it some of its own peculiarities. In all the instances in which we have observed this transition, there has been a strong hereditary tendency to Insanity. The transition has been marked by an obvious febrile crisis, and by that most important symptom of early Mania, loss of sleep. The medical man must therefore exercise due caution, in avoiding to pronounce any case to be purely hysterical because it has once been so. If, in a young woman of hysterical temperament, the perverted sentiments and desires, the strange conduct and excited demeanour, pass into a febrile stage, accompanied by a rapid pulse, by loss of sleep, and by delusion or hallucination, hysteria has passed into Mania. Patients are even met with in whom periods of hysterical and maniacal excitement alternate; and it is not difficult to distinguish in them the period when the nervous disorder presents itself, and when it yields to the more serious cerebral disease.

The Diagnosis of Mania from Sanity, or, in plainer terms, the recognition of Mania, is sufficiently simple when all or several of its symptoms are present in a marked degree; but when only few of its symptoms exist in a doubtful and incomplete form,

its recognition is arduous in the extreme. If the physician is fortunate enough to obtain a history of his patient, his difficulties are greatly lessened. For instance : suppose a case in which the physician is informed that the parents of the patient were insane before his birth,—that he had had a fever, a blow on the head, or a severe disappointment, and that, soon afterwards, he had become delirious, with loss of sleep, and violent conduct, and, in fact, had had an attack of Acute Mania; that, on the subsidence of these symptoms, he had passed into a more tranquil condition, and had recovered his bodily health; if, upon this history, the physician found his patient with the physiognomy of Mania, the furrowed countenance, wild eye, and discordant expression of the several features; if he found, on interrogating him, that he had unreasonable antipathies to his friends, that he had an extraordinary state of feeling and sentiment,—intense pride, for instance, or obstinacy, or selfishness or vanity; if he found that his sentiments had changed,—if, for instance, from being religious and moral, he had become impious and dissolute; if, from being benevolent and truthful, he had become cruel, base, and false; if, moreover, he found him restless, and his actions extraordinary; and if, in conversation, he found that the powers of concentration and of memory were deficient, he would scarcely want the further evidence of actual delusion, to drive home and clinch the opinion of his Insanity. But, if all cases were as plain as the one here supposed, no skill would be required to form a judgment upon them. Ploughmen and blacksmiths would be sufficient to decide that such men were insane. The opinion of the physician is really required in difficult and balancing cases, and for these no positive rules can be laid down, like those of a code of maritime signals. The history of the patient may be wanting, or may only be obtainable from ignorant persons, who cannot describe it for want of observation; or from prejudiced persons who will not describe it truly for lack of honesty. The physician will then be thrown entirely upon his own resources, and compelled to decide solely from the appearance, conduct, and conversation of the patient.

It is rare, indeed, to meet with a person suffering from any form of Mania who does not bear some impress of his disease in his countenance, his bearing, and his demeanour. The characters may, perhaps, be dubious, and almost illegible to the inexperienced eye; but as it is one purpose of these pages

to direct the observation and assist the discrimination of such an eye, we shall mention some of these *slight characteristics*, at the risk of appearing tediously minute to the man of experience; and of being misrepresented as laying them down for rules of diagnosis, by the critics of legal medical testimony.

The physiognomical symptoms have already been commented upon. The principal characteristic, in many of the patients, is the peculiar want of agreement in the expression of the features. In others, the fixed expression of some intense emotion is remarkable; of defiant pride, of sullen obstinacy, of smirking vanity, or of leering sensuality. A twitching of the orbicularis, or of other facial muscles, is not uncommon. In a great many cases of Chronic Mania the hair becomes harsh and bristling, and the skin of the scalp becomes loose. The medical man should never omit to examine the ears. The discovery of a shrivelled ear often tells an undeniable tale of profound mental disease. Altogether, the effect of Mania, and indeed all forms of Insanity, is to stamp upon the patient a remarkable degree of ugliness; and there is no symptom of returning mental health more trustworthy or more pleasing than the restoration of personal beauty. Among the female patients of large lunatic asylums, not a single good-looking woman is often to be seen, except those who are convalescent, or those who are enjoying a prolonged interval of tranquillity and amelioration.

The demeanour of the patient is often like the expression of his face—defiant, or sullen, or restless, or each alternately; or it is the statue-like quietude of absorption; or it is careless or negligent. Sometimes the head, or some other part of the body, is twitched convulsively; sometimes the hands are rubbed together perpetually, or the patient stands on one foot at a time, or in walking he slithers his feet, or he crouches or kneels, or indulges in some other bizarre movement. Rarely, indeed, is the demeanour of a patient suffering from Primary or Chronic Mania exactly that of a sane man. The condition of the patient's clothes is rarely devoid of significance; they are frequently ill arranged and dirty; they are also frequently strange, from some attempt on the part of the patient to impress upon them some peculiarity—for instance, a military or clerical character; or they present a studious coarseness and simplicity; or, on the other hand, an excess of ornament.

The physician passes from the observation of the signs to the

active investigation of the mental state, by questioning and conversing with the patient. In most cases it is well to commence by drawing the patient into a conversation on the most ordinary and natural topics. These will serve to test his power of attention, and to establish some confidence between the parties. If the physician is quite without clue as to the state of the patient's mind, he will do well to observe some order in his examination thereof. By so doing he will save time and trouble ; and should the delusions be limited in number and extent, he will be more likely to avoid overlooking them. The delusions which are unconnected with the patient's individuality are not frequent. Hence it arises that, if the physician can induce the patient to enter regularly into a description of his own sentiments and opinions respecting himself, he will seldom be left long in the dark respecting the nature of the delusive ideas. This will especially be the case if the physician has the forethought and the tact to lead the patient to talk about himself, in his various relations to his property, his friends and relatives, his business, his health, his ambition, and his religious hopes. If the physician will range and quarter the extent of his patient's probable field of thought, he will rarely allow any delusion to escape undetected. But if he wanders at random, he may expend his labour upon fruitless inquiries. Any order is better than none ; but the order of inquiry which would most readily suggest itself —namely, that of examining the state of the mental faculties, one after the other—is not, in practice, the most successful. After testing the fundamental faculties, the attention, the memory, and the judgment, which may be done by ordinary conversation on almost any subject, it will be well to give up the idea of any metaphysical or phrenological system of mind, and to conduct the further examination upon a plan laid down upon the active duties and relations of life. The patient may be led to give an account of his own powers of body and mind, with reference to health, to exercise, diet, and study. Thousands of delusions are entertained by insane people upon these subjects. He may then be led to converse respecting his possessions, his means of livelihood, and his hopes of advancement in rank or property ; such conversation will open up the delusions of pride, ambition, and acquisitiveness. He may then be led to converse of his near relatives and friends, and especially respecting his birth and parentage, and his belief whether his parents were his actual and real parents. This inquiry will tend to open up any

delusions respecting imaginary greatness, and any perverted emotions toward those who ought to be dear to him. The subject of religious opinion may then be introduced. The religious observances which he practices may be inquired into, with the reasonable expectation of finding insane delusions on a subject which touches the deepest sentiments. If the patient is an educated man, it will be right to converse with him upon politics and upon science. If he can stand the test of discriminating inquiry on these and similar subjects, he certainly cannot be the subject of Mania; and if he has any delusions, he must either retain the power of hiding them, or they may fairly be considered to exist in some obscure corner of the brain, from which they are little likely to influence, with any force, the opinions, the feelings, or the conduct.

Perverted propensities and instincts come under the province of observation, and cannot usually be elicited by verbal examination. Indecorous conduct towards the opposite sex, ravenous and perverted appetite, filthy and unnatural habits, must often be ascertained from the evidence of those who have special opportunities for observation.

On all the subjects above mentioned, in opinion, sentiment, instinct, and conduct, the chronic insane differ to a greater or less extent from their fellow-creatures; and, what is generally of more importance, from their former selves. If it can be ascertained that the points of difference have been consequent upon some cause potent in the production of mental disease, before the operation of which cause the patient was like other men, there can be no hesitation in setting down all the discoverable differences to the account of Insanity. But such knowledge is not always available in diagnosis; either the former history of the patient may be out of reach, or it may prove that the differences between him and other men have existed from an early period of life. It would be incorrect to say that some men were born maniacal, as others are born idiotic; but it is perfectly correct to say that some men are born with so strong a tendency to Mania that the disease gradually develops itself from early life, in such a manner that it is impossible to compare the mature maniac with any previous conditions of his former self in which he may be predicated to have been of sound mind.

In such instances the strangeness of thought, feeling, and conduct can only be compared with a standard of human qualities

as they exist in the race. The standard of mental health is necessarily transferred from the individual to the kind; and although it may be more difficult to appreciate deviations from the latter, because the standard itself is not only more variable, but also further removed from comparison, still it may be made use of. "Mankind are by nature so closely united, there is such a correspondence between the inward sensations of one man and those of another," that any considerable deviation from the principles of thought and feeling common to the race may justly be set down to causes more profound than the superficial influences of "those merely nominal relations which hold men together in little fraternities and copartnerships."—('Butler's Sermons.') The effect of such cause, which alters the disposition and bias of nature, is properly called disease, when it depends upon a pathological state of the brain; when such a state cannot be predicated, it is referred to Eccentricity.

The Diagnosis of Eccentricity is only likely to be required in cases of disputed will or in criminal trials where eccentric conduct is utilised to support the plea of Insanity. There appear to be two forms of Eccentricity, radically distinct. The one arises from an excess of what phrenologists call individuality. With little regard for the opinions of others, the eccentric man of this class strikes out a path for himself in all matters, both of opinion and of conduct. Such a man is often endowed with more than an average portion of good sense and of moral courage, although his sense is founded upon reasons marked out by his own mind upon propositions laid down by himself, and adverse to the common sense of those among whom his lot is cast; and his moral courage is displayed by adhesion to his own opinions, and by setting at naught the ill-founded ridicule of the world. Goldsmith gives an admirable sketch of this species of Eccentricity in the character of Burchell. It may safely be affirmed that an eccentric man of this type is further removed from the chances of Insanity than most of the sane people upon whose prejudices and fantasies he sets a remorseless heel. Such a man possesses the minimum of vanity, and is therefore not easily wounded by events which would overwhelm others with disgrace and chagrin. His intelligence is generally clear and untrammeled, and little liable to be made the sport of his passions. His emotions may be strong, but they are under control. He steers an independent course, far from the fleet of common minds under the convoy of recognised authority; and,

in the storms of life, he battles vigorously against disaster, and resists shipwreck better than most men. The French philosopher, La Bruyère, recognises Eccentricity, when held within the limits of reason, to be in some sort the characteristic of superior intelligence and integrity. "Le commun des hommes est si enclin au déréglement et à la bagatelle, et le monde est si plein d'exemples ou pernicieux ou ridicules, que je croirais assez que l'esprit de singularité, s'il pouvait avoir ses bornes et ne pas aller trop loin, approcherait fort de la droit raison et d'une conduite règuliere."

The eccentric man of the second class deviates from the ways of his fellow-men from weakness of judgment, from love of applause, and the desire of drawing upon himself the attention of others. This conduct is ill regulated and influenced only by vacillitating emotions, strong or weak according to the caprice of the hour. Men touched with imbecility are almost always eccentric; if the imbecility is secondary upon an attack of acute mental disease—that is, if it is, strictly speaking, slight dementia— they are always eccentric. Partial imbeciles, with gentle and affectionate dispositions, may, by careful and good training, avoid all devious paths in conduct. As a rule, however, a large proportion of the persons who become laughing-stocks on account of absurd vanities, or who become troublesome and mischievous to their friends or the public, on account of absurd scheming or ridiculous behaviour, will be found to have intellectual powers of low order, great desire of approbation, and little individuality.

This form of Eccentricity is often nearly allied to Insanity, and is often premonitory to it. Its subjects are to be found in families tainted with hereditary predisposition to mental disease; and it merges so gradually and insensibly into mental disease, that the lines of demarcation are traceable only with the greatest difficulty, and, indeed, often are not to be traced at all. In many cases, however, the transition is marked by perversion of the emotions, by unfounded suspicions, anxieties, and antipathies, and also by signs of physical disturbance, by sleeplessness and general feverishness. Eccentricity of this kind and Insanity overlap at the edges, so that there is a region in which either condition may be predicated of the sufferer. On each side of this region the distinction may be drawn, by observing, in Eccentricity, that the intellectual faculties are in no way perverted, and, with the exception of the judgment, that they are not even defective. The practical judgment is invariably weak;

the character is marked by obstinacy or fickleness; unaccountable states of emotion often present themselves, but they are remarkable for their strangeness rather than their force. The perverted emotions of the eccentric man are feeble in comparison with those of the lunatic, and it is seldom that they result in offences against the law. The propensities of the eccentric man are normal, and his countenance, demeanour, and state of muscular activity are devoid of the signs of Insanity.

There is a form of apparent eccentricity which is, in truth, a state of latent Insanity. In this form the intellect may be vigorous, but the emotions are invariably morbid. There is more than a tinge of melancholy in the feelings and sentiments; and this, reacting upon the imagination, gives rise to opinions and conduct strangely at variance not only with the common ways of men, but with the vigorous intelligence of the individual. Such men may be less liable to absolute Insanity than the eccentric and vain imbecile, but it may be affirmed of them that they never enjoy the free and healthy action of all the functions, mental and bodily, the *mens sana in corpore sano*. Such men are neither altogether eccentric, nor altogether alienated from themselves or from the sane portion of mankind; their course of life is often vigorous and decided; and although, owing to the mental bias, they move in curved lines, still the bias is calculable, and the line of progress determined.

Diagnosis of Melancholia.—Before the time of Esquirol, all the forms of supposed partial Insanity were included under the term Melancholia; but, since the general adoption of the term Monomania, suggested by him, Melancholia has frequently been included under this term. This is not less an error than the former, for Melancholia and Monomania are distinct diseases, although they constantly and greatly encroach upon and run into each other. In pure Melancholia the intellectual faculties are not involved; it presents the most indubitable example of Emotional Insanity. We have seen cases the very converse of Melancholia, in which excessive gaiety and cheerfulness, fun, frolic, and delight, without delusion, have been the chief symptoms of mental disease, known to be such from its ætiology, from its physical symptoms, the effect of remedies, and their results. Such cases are too rare to justify any alteration of nosological arrangements for the purpose of including them, and they are generally noticed as instances of Mania. They are, however, cases of purely Emotional Insanity, forming the

converse of those far more numerous cases in which the sentiments and feelings are sad, gloomy, and fearful.

Melancholia is frequently hereditary; that is, not only is the tendency to Insanity, but the tendency to this particular form of Insanity, transmitted. It is occasioned by all the moral causes of mental disease, especially by griefs, disappointments, reverses, and anxieties of every kind. It is also caused by long-continued ill-health arising from the infraction of the laws of hygiene; and it is the most frequent form of mental disorder which accompanies the grand climacteric of women. It is very needful to bear in mind the ætiology of mental disease, in attempting to form an opinion on uncomplicated Melancholia; because these symptoms may seem to vary in degree only, but not in kind, from that normal and healthy grief and sorrow, of which all men have their share in this chequered existence.

Some writers on Insanity assert that Melancholia is frequently a mere growth from a state of normal grief and low spirits. According to our experience, this statement is incorrect, or has only a slight and fallacious foundation in the accidental occurrence of real causes of normal grief simultaneously with the pathological causes of Melancholia.

An occurrence which would produce normal grief in a person not predisposed to mental disease, produces Melancholia in a person who is so predisposed. In such a case it may only be possible to found a distinction upon the relative intensity of the natural and of the pathological emotion. In other instances, Melancholia is produced by causes which have no power over normal emotions; and, in such cases, the consideration of the ætiology is an important point in the diagnosis.

The symptoms of Melancholia are despondency, fear, and despair, existing in a degree far beyond the intensity in which these emotions usually affect the sane mind, even under circumstances most capable of producing them; and in numerous instances existing without any commensurate moral cause, and often without any moral cause whatever.

Grief, fear and anxiety are natural to the mind; delusion and hallucination are unnatural; therefore it is that the existence of the latter affords much greater help to diagnosis than that of the former. Disease has to be ascertained from the degree and origin of the former, while the mere existence of delusion is enough to guide the judgment. To adopt terms from other forms of disease: Melancholia is a homologous affec-

tion, while Mania and Monomania are heterologous. The former is, however, not less a diseased condition, although it is more difficult to determine at what point the disease commences; just as in early stages of fatty liver it is difficult to pronounce whether the organ is in a state of disease or not, because fat is a natural constituent of the liver. But cancer of the liver is easily detected at an early stage, because it is a heterologous formation, and easily distinguished from the neighbouring parts. But, when the whole texture of the liver has become transformed into fat, and when this transformation is contemporaneous with other pathological changes, intimately connected with its production, its nature is perfectly obvious and apparent. So with emotional diseases of the brain; at their commencement it is often impossible to be certain of their nature; one must wait awhile to observe their course. But when the whole mind is stretched in one direction, when all the faculties are swallowed up in one overwhelming emotion, there can be no more hesitation respecting the pathological state. No mental disease stamps itself more legibly upon the physiognomy and demeanour of the patient than Melancholia; the sad and anxious eye, the drooping brow, the painful mouth, the attenuated and careworn features, the muddy complexion and harsh skin, the inertia of body, the stooping and crouching postures, the slow and heavy movement, speak of distressing oppression of the faculties and intense wretchedness. In other cases fearful anxiety is observed, and the eyes becomes bright, the nostrils dilated, the movements quick, irritable, and often impassioned, under the influence of some vague terror. If the physician can note the above symptoms, and can trace them to a cause productive of Insanity, he will have little difficulty in pronouncing his patient insane, although he can discover no trace of delusion. In many instances of this kind the patient is painfully conscious of the nature of his malady; he not only knows that he is insane, but will seldom attempt to conceal his consciousness thereof from any considerate and sympathising inquirer. Milder cases of this kind do not always require the restraints of an asylum, but they do require those cheerful influences of kind friends, change of scene, and mental diversion, which would be resorted to if the case were one of ordinary and healthy grief. The fear of suicide, and the possibility of preventing it, is that which here gives value to a positive diagnosis.

Pure Melancholia is frequently preceded by a brief period of

general mental excitement; and, in many cases, short periods occur during the course of the disorder in which the symptoms verge upon those of Mania. Two or three sleepless nights occur, the patient becomes irritable and restless and talks on the subject of his grief with vehemence; he soon, however, relapses into the dull and languid monotony of his former condition.

Melancholia tends to the development of delusion; and, in four cases out of five of Melancholia, delusion will be found to exist. By delusion we do not mean an exaggerated self-depreciation, or an excessive sensibility to the supposed neglect of friends, or to words construed into the expression of reproach. These, doubtless, indicate weakness of judgment, and may strictly be considered as a proof that the intellectual functions are not sound. But by delusion we mean an intellectual error caused by the pathological condition of the brain, and displaying itself in false sensation, perception, or conception; in illusion, hallucination, or delusion proper. The melancholiac who simply believes, in the earlier stages of his malady, that he is unworthy of God's favour, and too wicked to enjoy peace in this life, or felicity in the future, by dwelling upon these ideas,—the result of emotional rather than of intellectual operations,—comes eventually to believe, either, first, that he is the devil incarnate —a delusion; or, secondly, that he hears the voices and sees the forms of fiends—an hallucination; or, thirdly, he refers gastric pains to an internal devil—an illusion causing one form of demonomania.

The delusions of melancholiacs are frequently single, and hence the intimate connexion between this form of disease and Monomania. They also are frequently concealed by the patient, as before said. The pure melancholiac is conscious of his disease; he is also painfully conscious of the delusions which engraft themselves upon it. He struggles against them himself, and endeavours to conceal them from others. The general melancholic state of emotion will be readily admitted, while the intellectual delusion will be hidden. The delusions of Mania are obtruded upon the notice of the physician by the demonstrative vehemence of the patient; but the delusions of Melancholia must be sought for carefully, skillfully, and patiently. The physician must throw his grappling-iron in every direction, and expect to draw it up empty many times before he lays hold of the sunken cable. But if, with adroit management and

sympathising gentleness he inquires into the patient's feelings and opinions in relation to the Deity and the future life; in relation to his friends and property; in relation to his social position and expectations; and in relation to his bodily health, personal habits &c., it is improbable that any established delusion can long escape his notice. Melancholic patients will, however, not only conceal, but sometimes deny their delusions. When this is the case, there is no remedy but patience and prolonged observation. The delusion which may be repudiated to-day will be imperious and undeniable in a week's or a month's time. Melancholia proper, passing into Monomania, is essentially a chronic disease, and its symptoms cannot be observed before they have become developed.

There are two varieties of Melancholia proper met with in the field of actual observation. In one, the emotional functions involved are those of sorrow and regret. These emotions dwell upon events which have already taken place; and the mental anguish of the present is derived from the contemplation of the irrevocable past.

In a second form of Melancholia, the emotions indicated are those of apprehension, fear, terror, in all their modes of expression. Excessive anxiety, or that form of mental disease which the Germans call *angstgefühl*, and which is often seen in our wards, but not yet placed in our nosologies, belongs to this variety. The mental pain occasioned by these emotions arises from the anticipation of future misery. Esquirol's term of lypemania should be restricted to the former variety. Cases are actually met with in practice in which the present anguish of mental disease is occasioned solely by the contemplation of the past, or solely by contemplation of the future. In a strict nosology it would be well to restrict the term lypemania to the former, and pantophobia to the latter of these varieties of mental disease. The large majority of instances, however, of depressive emotional Insanity are compounded of fear and sorrow, in ever-varying proportions.

Melancholia Attonita.—Melancholia sometimes assumes a form which may be mistaken for extreme Dementia. This form was recognised by Dr Burrows, who says, speaking of Melancholiacs, "Sometimes they are so wholly absorbed by one or more delusions as to be almost lost even to animal instinct and to the functions of automatic life." It has more recently been investigated by several French authors, and especially by the able editor

of the 'Annales Médico-Psychologiques,' M. Baillarger. It is called by him *Mélancolie avec stupeur*, and is said to be composed of two forms of mental affection—namely, of the sadness, self-depreciation, and motionless fear of melancholia, and the embarrassment of thought, the slowness of conception, and intellectual inertia of primary Dementia or Stupor. The patient stands or sits in one fixed position, or walks slowly to and fro, in one unvarying movement. The calls of nature are not attended to, and the patient has often to be fed, dressed, and removed from one room to another by force; he maintains an obstinate silence, or mutters unintelligibly to himself. A strong tendency to suicide frequently exists, and sometimes the patient undergoes an accession of temporary excitement. The expression of the countenance is peculiar—it is that of intense reverie.

When the patient recovers, he is found to have fully retained his consciousness of all that has happened to him, and of all the events which have fallen under his notice; and it is usually found that his mind has been absorbed by some fearful hallucination or delusion. One has thought himself standing to the chin in a sea of blood, another surrounded by the dead bodies of his relations. These cases of Melancholia, resembling profound Dementia, may be distinguished from the latter malady —first, by the expression of the countenance, which, in Melancholia, is contracted, and marked by an intense although an immoveable expression; while in Dementia, it is relaxed and expressionless. Secondly, in abstracted Melancholy the patient resists being moved, sleeps badly, and often refuses food; in Dementia, he complies with the wishes of the attendants, has a good appetite, and sleeps well. Thirdly, in abstracted Melancholy the bodily functions are more seriously affected than in Dementia, the body is emaciated, the complexion is sallow, the skin is harsh, and the secretions generally deranged; whereas in Dementia the body often retains its plumpness and the secretions are little altered from a healthy standard. Fourthly, after recovery, the patient who has been affected with abstracted Melancholy is found to have retained his consciousness through the whole period of his disease; when recovery takes place from primary Dementia, the past is found to have left no traces in the memory.

Diagnosis of Melancholia from Hypochondriasis.—This is sometimes a most delicate and difficult question to determine. In the trial of Buranelli, who was executed in London, in 1855, for

the murder of one Lambert, it was of the utmost importance to determine whether certain absurd opinions, which the prisoner had entertained respecting the existence and nature of a fistula, were the result of mental disease (Melancholia) or of Hypochondriasis, which it appears to have been assumed is not a mental disease. In the general truth of this assumption we must agree, although there is no doubt that Hypochondriasis sometimes terminates in true Melancholia; and that original Melancholia is sometimes marked by many of the symptoms of Hypochondriasis.

Until recent times, it appears that many cases of true Insanity were regarded as instances of Hypochondriasis. Galen and other ancient authors described Hypochondriasis as a species of Melancholy; and, in later times, Pinel and other authors of authority included it in their classification of mental disorders. "Joseph Frank included among hypochondriacs those melancholiacs who imagine that their body is made of butter, as did Gaspard Barlœus, a distinguished physician of the seventeenth century; of mud, like a patient spoken of by Aretæus; of wax, like one who was observed by Grimm; of glass, like a philosopher who was described to Sanchez by Boerhaave. Such persons avoid heat, lest they should be melted; they forbear to drink, lest they should be dissolved; or they continually remain sitting, in order to avoid being broken. Frank also confounded with hypochondriacs, persons who believe themselves turned into animals (zoanthropes), and all other monomaniacs who have false ideas or perceptions relative to their individuality. This opinion was an error which vanished before a more profound classification of mental disorders." (Michéa, 'Traité de l'Hypochondrie.')

It is therefore certain that Hypochondriasis and Melancholic Monomania were not clearly distinguished by physicians until recent years. Prichard, however, distinguished between the two affections with his usual clearness and precision. He observed "that a hypochondriac is in full possession of his reason, though his sufferings are not so dangerous or so severe as he supposes; *but if he declares that his head or his nose has become too large to pass through a doorway, or displays any other hallucination, he has become a lunatic;* his disorder has changed its nature; and this conversion takes place occasionally, though by no means so frequently as is supposed." Hypochondriacs, however low spirited or dejected, also suffer differently from persons

affected with Melancholy. The apprehensions of the former are confined to their own feelings and bodily health. On other subjects they converse cheerfully, rationally, and justly. But melancholiacs view all things through a gloomy medium. They despond on all subjects, and are mentally miserable, and independently of any severe bodily suffering. The affections and sentiments of the hypochondriac, especially to his former friends or his connexions, are not in the unnatural or perverted state observed in all the forms of Insanity.

We must not omit the diagnosis between these two diseases, drawn by the masterly pen of Cullen, than whom no medical writer has ever been more accurate and logical in his discrimination of disease, according to the light which he possessed. He says:

"Hypochondriasis I would consider as being always attended with dyspeptic symptoms; and though there may be, at the same time, an anxious melancholic fear arising from the feeling of these symptoms, yet while this fear is only a mistaken judgment with respect to the state of the patient's own health, and to the danger to be from thence apprehended, I would still consider the disease as a Hypochondriasis, and as distinct from the proper Melancholia; but when an anxious fear and despondency arises from a mistaken judgment with respect to other circumstances than those of health, and more especially when the person is at the same time without any dyspeptic symptoms, every one will readily allow this to be a disease widely different from both dyspepsia and Hypochondriasis, and it is what I would strictly name Melancholia.

"In this there seems little difficulty; but as an exquisitely melancholic temperament may induce a torpor and slowness in the action of the stomach, so it generally produces some dyspeptic symptoms, and from hence there may be some difficulty in distinguishing such a case from Hypochondriasis; but I would maintain, however, that when the characters of the temperament are strongly marked, and more particularly when the false judgment turns upon other subjects than that of health, or when, *though relative to the person's own body, it is of a groundless and absurd kind,* then, notwithstanding the appearance of some dyspeptic symptoms, the case is still to be considered as that of a Melancholia, rather than a Hypochondriasis."

Crichton maintains that the different origin of the two is the most characteristic distinction between Melancholia and Hypo-

chondriasis; the former seldom arising except mental causes join themselves to corporeal ones, the latter ensuing, in the first place, from bodily ailments alone.

Romberg, one of the most experienced and learned of writers on nervous diseases, lays stress upon another mark which distinguishes Hypochondriasis from Melancholia.

"Diagnostic errors are frequent from psychical hyperæsthesia being confounded with Melancholia and Hysteria. The characteristic peculiar to the former, as to Insanity generally, consists in alienation of the feeling of identity and consciousness as regards sensations and impressions, and this in Melancholia is combined with a tendency to self-negation.

"In Hypochondriasis, on the contrary, the egotistic principle is exalted, and in no ways estranged to some other sensation or impression, so as to render this an apparent reality. The difference is clearly expressed in all the patient's relations, not excepting his relation to his physician. The hypochondriac looks upon his physician, however often he change his medical attendant, as his guardian and saviour; while the person labouring under Melancholia treats him as if he were a hostile or ignorant individual, and constantly tries to avoid him." (Romberg, vol. i, p. 184, Sieveking's Translation.)

The points of this diagnosis may be summed up as follows:—1st. The cause of Hypochondriasis is usually some form of dyspepsia, or some morbid state of the digestive organs—that of Melancholia being some one or more of the ordinary causes of Insanity. 2nd. The *quasi* hallucinations of the hypochondriac are usually such as may be attributed to exaggerated physical sensibility, and they are subject to frequent variations, or entire change. The hallucinations of the melancholiac, on the contrary, even where they relate to the person's own body, are absurd, and inexplicable as the result of exaggerated sensibility. They are, moreover, fixed and permanent. 3rd. In Hypochondriasis, the patient clings to his medical adviser for the time being, with the ardent desire of obtaining relief. The melancholiac more frequently repudiates the idea that he has any physical malady; and consequently, he is apt to dislike and avoid the medical men with whom he comes in contact. 4th. The love of life and fear of death are prevailing characteristics of Hypochondriasis. A frequent symptom of Melancholia is disgust of life, attended with desire to commit suicide, which, when motiveless, is one of the surest marks of Insanity. 5th.

in Hypochondriasis, apart from the patient's judgment respecting the condition of his health, the intellectual powers remain intact. In Melancholia, the intelligence is often greatly impaired. 6th. In Hypochondriasis, apart from the selfishness generated by a constant regard to the state of his health, the emotions of the patient are in a normal state, He may, indeed, be wretched, selfish, fickle, and exacting; but he suffers from no perversion of the emotions, entertains no suspicions or antipathies towards his relatives and friends—no ideas of treachery, of pursuings, of criminal accusations against him on their part. In Melancholia such ideas are frequent, and perversion of the emotions is a constant symptom.

Monomania.—This form of Insanity is seldom primary. The great majority of cases are sequences of or transformations from Melancholia. In some instances Melancholia exists, for a time, without delusion; but at length the delusive idea develops itself, acquires consistency and strength, and thenceforth sustains and directs the course of the perverted emotions. After the development of the delusive idea, however, the emotional disease frequently subsides, or continues to exist in a milder form. In these cases the single intellectual error becomes prominent, and easily attracts observation. In many other cases it is not possible to distinguish between the period of emotional disturbance and that of intellectual aberration. The two appear to arise contemporaneously; and it may even seem that the intellectual aberration is first in order of time, and the emotional disturbance the consequence thereof. A man of wealth and reputation fancies that he is pursued by the police for fraudulent bankruptcy, and his mind is occupied by the most gloomy apprehensions and by the saddest regrets. If such a disease has developed itself slowly, it will be possible to observe the order of causation; and our own experience confirms that of M. Guislain, M. Brierre de Boismont, and others, who affirm that the emotional disturbance always occurs first and the intellectual perversion takes place subsequently. When the symptoms of such a case develop themselves more rapidly, the emotional and intellectual phenomena cannot be observed in any order of succession. They appear to rise contemporaneously; but since they do not so arise in those cases the course of which can be observed, it is, we think, more probable that their apparent contemporaneousness is unreal, and dependent upon difficulties of observation, rather than the succession of pheno-

mena is different in rapid cases from that which is observed to exist in slow ones.

It is of the utmost importance to trace the existence, past or present, of perverted emotion, in common with deluded opinion. Deluded opinion upon one subject, standing by itself, and without hallucination or perversion of the emotions or instincts, can rarely be recognised as a form of Insanity. The history of human error, and especially of religious error, affords such abundant examples of every species and every exaggeration of absurd opinion, that on many subjects opinion or belief alone, without reference to the mode of its causation and its accompaniments, cannot be viewed as a characteristic of Insanity. The difference between a Mormonite, a Princeite, a clairvoyant, or a table-rapper, and a true monomaniac, depends upon this—that in the former, the absurd opinion is the natural consequence of ignorance, and inaptitude to use aright the faculties of observation and judgment; in the latter, it is one of the train of symptoms of a pathological condition of the brain, and is consequent upon the recognised causes of such a condition. Hence it results that the diagnosis of Monomania is only to be effected by studious attention to the present condition of all the mental faculties, as bearing traces of more active disease passed by; and also to the antecedents of the patient, investigated in a manner at once minute and comprehensive. To take an actual example:—Two persons each avow themselves to be the incarnate Son of God. In one instance we find that the individual has, for years before the avowal, studied and interpreted the Scriptures in a mystical manner; that, although a clergyman, his judgment relating to matters of theology has always been of the most weak and errant kind; that in consequence of his want of common sense and judgment, and of the vagaries of personal vanity, he has lost all chance of preferment in the regular course of his profession. As the world rejects him, he redoubles his mysticism, his vanity, and his spiritual pretensions; he persuades some washy-minded people to believe in him, and to confer upon him the adulations which he demands in his character as the impersonation of God upon earth. This gentleman has displayed no emotional perversion. He was misplaced in the Church which has developed all the weak points of his character. A feeble judgment, a prurient vanity, and a seething imagination, have made him him what he is.

The counterpart of this picture is afforded by a patient under

our care, the prominent characteristic of whose mental condition is the belief in exactly the same opinion avowed by the other. Three years ago this man was an industrious and well-informed artisan; he was sober, honest, but not particularly religious; he had fever, and after the fever an attack of maniacal excitement. From this he appeared to recover, but his temper was altered; he became irritable, suspicious, and quarrelsome. After the lapse of more than a year, he declared himself to be the Son of God; his temper now improved; and at the present time the delusive opinion is, perhaps, as nearly the sole mental affection as is ever seen in cases of so-called Monomania. Occasionally there are outbursts of violence towards those who he thinks ought to obey him; but on the whole he is docile, and on other matters reasonable, and works industriously at his trade. There is this remarkable difference between the mystic and the madman —that the former turns his absurd opinion or pretence of opinion, and that of his dupes, to a profitable account, and lives more like a Sybarite, than a Saviour; whereas the latter labours humbly at his calling, and adheres to his delusion, though he must feel that it costs him his liberty. A short residence in the wards of an asylum would, most probably, reduce the pretensions of the voluptuous mystic; but there is little fear that his absurd belief, if it is a belief, will impel him to conduct which will endanger the comfort or the safety of his sacred person. The belief of the madman on the other hand, is a real and dangerous one, which may lead him to the commission of any violence, either upon his own person or that of another.

In discussions which have recently taken place upon the reality of Monomania, much confusion has arisen from the want of discrimination between Insanity upon a single subject, and Insanity of a single faculty. The commonly accepted meaning of the term of Monomania, is that of Insanity upon a single subject; but a delusive opinion of such a kind, even if the subject is of the most simple nature, and most unlikely to involve the affective functions of the mind, cannot exist without the wrong action of several functions. Take, for example, the case mentioned by M. Esquirol, of Mdlle. F., who was constantly in fear lest *something of value* should adhere to her which did not belong to her. She constantly rubbed her dress, lest something of value should be hid therein; sometimes she would touch nothing, not even food, lest something of value should adhere to it. She was on all other subjects intelligent, and in

good health, and she sometimes laughed at her own absurdities. Esquirol says it was impossible to detect any disorder of her sensations, reasons, or emotions. To our mind it appears that in this case, given as a typical example of Monomania, both the reason and the emotions were undoubtedly affected, and that it is more than probable that the sensations were also involved. The patient took two or three hours to dress, so careful was she to rub her clothes, to wash, and to comb her hair, lest *something of value* should adhere to them. Surely the sensations of a healthy person would have ascertained the non-existence of this *something of value* in less time than two or three hours! The judgment was of course affected; otherwise a single comparison of her fantasy with the actual conditions of existence, would have dispelled the delusion. The emotions of conscientiousness, and of fear, its near ally, were deeply implicated; their unhealthy excitation was indeed the probable groundwork of the whole delusive structure. Insanity on a single subject, therefore, implicates many of the faculties.

Monomania of a single faculty, in its strictly philosophical sense, is not to be discovered in delusion, however simple and circumscribed it may be. If it exist at all, it exists in the pathological condition of some one or other of the emotions or instincts. There can be no doubt that the sexual instinct is not unfrequently thrown into a state of extreme excitement, by pathological changes taking place in the nervous system. This painful form of disease not unfrequently presents itself during the semi-pathological changes of old age. Men who have been distinguished, during a long life, for prudence and propriety in their relations with the other sex, when from old age, they have one foot in the grave, are sometimes seen to throw off all restraint, and to rush into the most reckless and disgusting libertinism. Whether or not this change of manners is accompanied by diseased processes in the brain, we have not yet been able to ascertain by necrological observation. This, however, seems highly probable, since we have seen Nymphomania end fatally in young women; and in these cases, in addition to false *corpora lutea*, we have found great cerebral congestion. Excitement of the sexual functions may depend upon spinal irritation alone, the lascivious idea being secondary results, just as longing ideas of food are the results and not the causes of hunger. Satyriasis and Nymphomania, as examples of Monomania, are, therefore, liable to the objection that they are spinal

or cerebro-spinal affections, and independent of that part of the brain which is the organ of the mental functions.

The desire of self-preservation appears to be intermediate between the instincts and the emotions. There can be no doubt that it is capable of being pathologically affected strictly by itself. Instances of Suicidal Insanity are not uncommon, in which this emotion is completely subverted, whilst no other function of the mind is touched. The unhappy patients reason and struggle against the fatal propensity, but in vain. The desire to die by one's own act appears to be the one mental symptom, and to present the most undoubted instance of disease affecting only one function. The majority of these cases are hereditary.

Occasionally, cases present themselves of an equally simple character, in which the desire of self-preservation is exalted. They differ somewhat from cases in which the sentiment of fear is exaggerated (Pantophobia). Excessive fear directs itself to other events besides that of death, and is more frequently complicated with delusive opinion or hallucination. Intense apprehension of death sometimes presents itself alone, and is the counterpart of suicidal desire. It generally results from moral causes of wretchedness. It occasions sleeplessness, emaciation, and a morbid state of all the bodily functions, and is capable of verifying its own predictions.

The Moral Insanity of Prichard is not a true Monomania. The moral faculties form a group of powers, which are all more or less affected. Granting, therefore, that which is improbable, that the intellectual faculties may be intact, the number of the moral functions affected takes the disease described by Prichard out of the category of Monomania. Its diagnosis is of the utmost importance, and often of the utmost difficulty.

The following is the account given of this form of disease, by the learned author with whose name it is associated:— "There are many individuals living at large, and not entirely separated from society, who are affected in a certain degree with this modification of Insanity. They are reputed persons of a singular, wayward, and eccentric character. An attentive observer will often recognise something remarkable in their manners and habits, which may lead him to entertain doubts as to their entire sanity, and circumstances are sometimes discovered on inquiry which add strength to this suspicion. In many instances, it has been found that an hereditary tendency

to madness has existed in the family, or that several relatives of the person affected have laboured under other diseases of the brain. The individual himself has been discovered to have suffered, in a former period of life, an attack of madness of a decided character. His temper and disposition are found to have undergone a change; to be not what they were, previously to a certain time; he has become an altered man, and the difference has, perhaps, been noted from the period when he sustained some reverse of fortune, which deeply affected him, or the loss of some beloved relative. In other instances, an alteration in the character of the individual has ensued immediately on some severe shock which his bodily constitution has undergone. This has been either a disorder affecting the head, a slight attack of paralysis, or some febrile or inflammatory complaint; which has produced a perceptible change in the habitual state of his constitution. In some cases, the alteration in temper and habits has been gradual and imperceptible, and it seems only to have consisted in an exaltation and increase of peculiarities, which were all more or less natural and habitual."

It would appear from this, that perhaps the only diagnostic symptom between mere vicious propensities and Moral Insanity is the mode of causation. Moral Insanity is always preceded by an efficient cause of mental disease, and there has always been a notable change in the emotions and the propensities, following and apparently consequent upon the operation of this cause. Sometimes the moral effect of the cause is very limited. The Rev. D. Denman, in one of his excellent papers on the dependence of mental upon physical conditions, in the 'Psychological Journal,' relates an instance of a gentleman whom he knew, and who received an accidental injury on the head. He soon afterwards displayed exalted pride, an emotion which was previously foreign to his character, but which thenceforth continued to the end of his life. Such instances are far more rare than those in which the cause of mental disease has been followed by an alteration in several of the emotions, though it is open to doubt whether, in some of these instances, one emotion having intimate union with several others, has not been primarily affected. Excitement of irascibility or combativeness, for instance, will change the whole moral character of the individual. All benevolent and kindly affections, all prudent regard for the feelings of others, all sense of duty and

of justice, will disappear before the storms of habitual passion. In mere ill-regulated but normal emotion and instinct, there has been no sudden change of character consequent upon fever, apoplexy, injury to the head, or other notable causes of disease; the power of desire and of unbridled propensities has been of gradual growth, arising from frequent indulgence. It is a physiological condition contrasted with the pathological condition of Moral Insanity. Such a condition is exemplified in the first example quoted by Prichard from Pinel, in which "the only son of a weak and indulgent mother gave himself up, habitually, to the gratification of every caprice and passion of which an untutored and violent temper was susceptible; the impetuosity of his disposition increased with his years; when unmoved by passion, he possessed a perfectly sound judgment; he proved himself fully competent to the management of his estate, as well as the discharge of his relative duties." But "wounds, law-suits, and pecuniary compensations, were the consequences of his unhappy propensity to quarrel, and an act of notoriety put an end to his career of violence; enraged with a woman who had used offensive language to him, he threw her into a well, and he was condemned to perpetual confinement in the Bicêtre." M. Pinel terms this affection "emportement maniaque sans délire;" but, notwithstanding that the case is quoted by Prichard, it must be admitted that it is defective in the marks which he has himself laid down as the characteristics of Moral Insanity. No cause of mental disease was shown to have existed, and the alteration in the temper and habits, which Prichard, in another place, insists upon as existing in *all cases* of Moral Insanity, had not taken place; on the contrary, the case appears to present an unequivocal example of unbridled passion, the result of bad education and of vicious indulgence. This case bears a strong resemblance to that of William Dove, which has recently caused so much discussion. It may be, that emotions and propensities which have acquired strength by constant indulgence become at length as irresistible, when the moment of temptation arrives, as those which are the result of mental disease. This, however, is a question more for the moralist than for the physician. The rôle of the physician is, to point out to the magistrate that which is disease and that which is not. He is neither the legislator nor administrator of the law. The law requires his opinion because it recognises a difference between passion which is the result of indulgence,

and passion which is the result of disease. To the former it applies correction, because it might have been withstood, at least, in some stages of its progress, and because its correction is thought to be needful to the welfare of society. Passion, the result of disease, it does not correct, because the patient who suffers from it could not have withstood its progress, and because its correction, in any other mode than by appropriate medical treatment, would be useless and cruel.

The principles laid down for the diagnosis of Moral Insanity are equally applicable to the special varieties of the disease, to Homicidal Insanity, to Kleptomania, and Oinomania. Pyromania appears to have been a needless refinement of classification applied to a particular mode of destructiveness. The Prussian Medical Council, which first established the variety by its dictum, has since repudiated its existence; and the term Pyromania ought to be expunged from books, or remembered only as a passing absurdity of psychologists. The existence of *Homicidal Insanity* ought never to be admitted without the proof of other symptoms of mental disease than the perverted instinct itself, or at least without the existence of well-recognised or efficient causes of mental disease, and an obvious change in the temper and disposition consequent thereupon.

As a rule, therefore, in the absence of other symptoms of Insanity, it will be well to insist that homicidal impulse only can be admitted, upon proof that an efficient cause of mental disease has been followed by a notable alteration of disposition and habits, and that the overt act has not been instigated by criminal motive. This latter point, however, admits of exceptions.

The diagnosis of **Kleptomania** is to be made on the same principles. The instances on record of the propensity to steal, exhibited by persons who had no temptation to appropriate the property of others, beyond the gratification of a disordered or at least an ill-regulated mind, are scanty authority for the establishment of a pathological state. The physician, quoted by Prichard, who stole silver spoons and snuff-boxes from his patients, might possibly have been cured of his bad habit, had it exposed him to any serious inconvenience. Kleptomania is never urged as a defence for the delinquencies of the poor; but when ladies of respectable connexion are detected in habits of shop-lifting, the theory of Kleptomania has been found exceedingly convenient. In order to substantiate the existence of

this form of Insanity, previous disease affecting the brain, followed by change of disposition and habits, ought to be proved; and to verify the diagnosis, it would be satisfactory if it could be shown that the articles stolen were not appropriated to his or her gratification. In his reminiscences of prison life, Mr. Chesterton gives a singular example of a wealthy shop-lifter. She was an Irish lady, of ample fortune; on examining her clothing after apprehension, she was found to have only one undergarment; this was made of chamois leather, and was covered with pockets conveniently placed for the concealment of her booty. When in prison, under pretence of inspecting some papers she sent for a box, from which she was observed to abstract a parcel, which proved, on examination, to contain cash to the amount of more than £2000. As she was a felon, this was forfeited to the Crown. She was discharged from the prison on a rainy day, and to save a cab fare she requested permission to stay the night. The correctional discipline of Coldbathfields cured her of shop-lifting, but, as the sequel proved, it had little influence on her love of money.

The diagnosis of **General Paralysis** is facile after the first stadium of the disease has been passed and after practical knowledge of its signs has been acquired, although it is not easy to describe in words the slight but pathognomonic changes which speak so forcibly to the practised eye and ear of the observer. The best diagnostic symptom in the early stages of General Paralysis is the modification of articulation. This is neither stammering nor hesitation of speech. It more closely resembles the thickness of speech observable in a drunken man. It depends upon loss of power over the co-ordinate action of the muscles of vocal articulation. In many instances the speech of the early paralytic is fluent and clear, except in the pronunciation of certain words, or sequences of words, which require the neat and precise action of the muscles of speech. Words composed of vocalic sounds connected by single consonants are articulated with correctness; but words composed of numerous consonants, with few vocalic sounds, are articulated in a shuffled manner, which is perfectly characteristic. The patient may even possess the power of articulating these words correctly, if he purposely attempts to do so; but if the examiner holds him in conversation for a few minutes, the ear will infallibly detect the slight but fatal *Shibboleth* of incurable disease. Some little practice in the wards of an asylum is

needful to the attainment of readiness in the appreciation of a physical symptom of this kind, just as all the verbal descriptions ever given in books of stethoscopy are of little value, unless the ear is itself practised on the chest of the patient labouring under pulmonary or cardiac disease. There are many other symptoms of General Paralysis, the existence of which perhaps, adds certainty to the diagnosis, but the affection of speech is worth more than all the others. It is always present when the others are present, and without it no other symptoms can be considered diagnostic. In speaking, the lips are tremulous, not unlike those of a person about to burst into passionate weeping. Protrusion of the tongue can only be effected with effort, and cannot be long protruded; and, while protruding, the organ quivers. At a later period the brows droop, and the contraction of the iris under the stimulus of light is sometimes different in the two eyes. At a period of very variable duration after the affection of the voice is perceptible, the muscles of the limbs lose the exactitude of co-ordinate action. In walking, the patient stumbles along in a peculiar manner. He does not drag the toe after him, like a patient affected with hemiplegia; neither does he walk in the straggling and flat-footed manner, with high action, and as if his foot did not belong to him, like a sufferer from spinal paralysis. The mode of progression indicates the want of consentaneous action, rather than want of power in the muscles. At a later period the muscles of the arms are affected, so that any delicate handicraft, or any muscular movement requiring nice and rapid action, like that of writing, or playing upon a musical instrument, cannot be performed. As the disease progresses, power over the sphincters is lost, and the patient becomes wretchedly filthy; and at last, even power over the muscles of purely excito-motory action becomes lost, and the patient is apt to become choked while taking his food, by the stoppage, as is generally believed, of a morsel of food in the pharynx. We doubt, however, whether food in the pharynx alone would produce the sudden deaths to which paralytics are subjected while eating, unless the mass in the pharynx obstructed the opening of the larynx. A mass of food to be able to do this must be very large. We have in three instances carefully examined the position of the obstructing morsel which had caused death, and found that in two instances there was no food in the pharynx, but that the fatal morsel was stuck fast in the box of the larynx; in one instance

it was a crust of bread, in the other it was a piece of meat. In the third instance, a general paralytic, with ravenous appetite, was being carefully fed with some soft pudding, by an attendant; an epileptic patient had a severe fall in a fit, and the attendant sprang to his assistance; the general paralytic crammed the pudding into his mouth, and was immediately choked. On examination, both the larynx and the pharynx were found to be filled with the soft mass of the pudding. It would appear, therefore, that the cause of these fatal occurrences is the loss of the excito-motory function which in a healthy person, prevents the entrance of food into the larynx.

The form of mental disorder which accompanies General Paralysis is frequently of diagnostic value. The emotions and propensities are less frequently involved than in other forms of mental disease. Cases, however, do occur, in which the propensity to theft and to indecency is inveterate; and we have known a man tried for felony, who was not able to articulate his own name from the ravages of this fatal disease. The rule, however, is as we have stated it. General paralytics are not usually found to entertain the unfounded aversion and suspicions so common during the incubation of Mania. General paralytics are not malignant; and although sometimes furious, their passion is gusty and transient. The form of intellectual disorder, moreover, is frequently of a most remarkable kind; the patient fancies himself possessed of wealth and power illimitable, and is often fantastically imaginative. One man fancies himself the possessor of thousands of millions of sovereigns—of shiploads of gold and silver and precious stones; another fancies himself greater than God; another says that he can lift the world, and that all the children that are born in all parts thereof issue from his loins. This man also says that he is heavier than the world, and that all the men in the world cannot lift him. We invite him to lie down, and lift him with ease. He immediately explains that our success is owing to the buoyancy of the angels that are in him. When a patient exhibits this imaginative extravagance of idea, accompanied with slight emotional disturbance, and loss of clearness in vocal articulation they will suffice for a positive diagnosis. In some cases, however, there are terrific delusions, with emotional depression; and in others the mental symptoms are merely those of gradually increasing Dementia.

Though the main difficulty is to appreciate the very first

symptoms of this disorder, especially in very slow cases, the diagnosis is more certain in its earlier than in its later stages. In the middle stages there is no other disease for which it can be mistaken. In the majority of cases the symptoms are sufficiently distinctive in the latter stages also; but we have ere now experienced difficulty in distinguishing a case of advanced Dementia with habitual hesitation of the voice from General Paralysis. The absence of muscular tremors and debility in the lips and limbs, and the difference between mere vocal hesitation and the want of articulating power peculiar to General Paralysis, decided the diagnosis. Cases also present themselves in which many of the symptoms of advanced Paralysis are causes by double apoplexy; cases in which each side of the body is in the condition observable on one side in hemiplegia. When both sides of the body are paralysed, the signs of hemiplegia afforded by the unequal contraction of the symmetrical muscles are lost. On this principle, jockeys are said sometimes to disguise a horse's lameness by placing a stone between the shoe and the hoof of the sound foot; lameness in both legs being less likely to attract notice than lameness in one. The physician is often introduced to such patients for the first time, when they have lost all power of conversation and of locomotion, when they are bedridden and silent, or only able to answer in monosyllables. In such instances, the diagnosis of the exact nature of the disease has, indeed, little practical value; but its difficulty and its scientific interest instigate the attempt to make it. Fourteen years ago we diagnosed a case of this kind to be not General Paralysis, although the most eminent physicians of the day had given evidence on an Inquisition that it was General Paralysis in an advanced stage. The patient has remained during the years which have elapsed almost without change. Our diagnosis was founded upon the muscular firmness and power of expression retained by the features compared with the profound palsy of the limbs and upon the susceptibility of the limbs to excito-motory action. We think this interesting case is one of double hemiplegia combined with secondary Dementia. In the year 1852 we published, in the 'Report of the Devon County Asylum,' an account of some experiments we had made in the diagnosis of such cases, by means of the electric stimulus. The electro-galvanic apparatus was applied to the lower limbs of patients suffering (1st) from mental disease without Paralysis; (2nd) from Dementia with ordinary

Paralysis, and, (3rd) from Dementia with General Paralysis. The result of our experiments proved that, in Dementia without Paralysis, and in Dementia with ordinary Paralysis, there is no loss of excito-motor sensibility, while in General Paralysis there is a great loss of this function. In some cases, the strongest stimulus of the electro-magnetic machine failed to produce any movement in the legs of the patient, beyond a slight tremor, not amounting to muscular contraction, and incapable of moving the limb in the slightest degree. This experiment may be more conveniently but less effectually tried by tickling the soles of the feet. In common Paralysis this causes muscular contraction; in General Paralysis it is not caused. These experiments establish a rule of some importance in diagnosis—that in Paralysis having its seat in the brain, the excito-motory function of the nerves is not lost; that in General Paralysis, the pathological conditions of which involve the whole nervous system, the excito-motory sensibility is gradually abolished. Some observers state, however, that some exceptions to this rule occur in certain stages of the disease.*

An element of some importance in the diagnosis of this remarkable disease is afforded by the frequent occurrence of epileptiform fits. There can be no doubt that they occur with great frequency in the middle and later stages, and with sufficient frequency in the early stage, to be of great significance when associated with the peculiar expansive delirium, or with any appearances of muscular tremor. In the excellent series of papers on General Paralysis contributed to 'The Journal of Mental Science,' by Dr Harrington Tuke, the occurrence of these fits is described as constant in all cases of this disease. He says, "I do not believe that General Paralysis ever runs through its course without producing or exhibiting the phenomena of these epileptoid fits; they may often evade observation if not particularly inquired into, and their nature may be mistaken, but their pathognomonic value when properly understood is very great, and their presence in the case, in their special

* These experiments were made by us during the year 1851, and published on the 1st of January, 1852. We were not aware until quite recently that the result of similar experiments had been published in 1851, in the 'Supplément au Dictionnaire des Dictionnaires de Médecine,' by M. le Dr. Brierre de Boismont, the results of which appear entirely to confirm the views expressed in the text.

We have not met with an opportunity of applying this test to locomotor ataxy, but we should expect that in such a case also the excito-motory functions would be abrogated.

form, is decisive as to the nature of the attack." At the time, however, when the diagnosis is needed, these fits may not have occurred, or they may not have been observed. Their diagnosis from epilepsy, according to Dr Tuke, is to be made as follows: —"The tongue is seldom wounded in General Paralysis: and the tendency to sleep after an epileptic fit is very different from the entire stupor which often follows the fit in General Paralysis. The convulsions in Epilepsy are more universal; in Paralysis the arm or leg is affected, as a general rule only on one side, although this is not constant; but the principal pathognomonic difference appears to be in the relation which is found to exist between the mental symptoms and the fits. Slight epileptic seizures occur for years without materially damaging the intellectual faculties; but in a patient affected with fits in combination with Paralysis, each seizure, however slight, is generally followed by an exacerbation of the mental derangement, which from the first is out of proportion to the disorganization indicated by the fits alone. In epilepsy the existence of these paroxysms is recognised by the patient, and their invasion is anticipated and dreaded. I have never seen a paralytic patient who seemed conscious of them, or who feared their recurrence." ('The Journal of Mental Science,' No. 31, p. 88.)

In the diagnosis of these fits from apoplexy with effusion of blood upon the brain, the same author remarks that, "in the insensibility of General Paralysis there is not usually stertorous breathing, nor that peculiar puffing of the cheeks in expiration, which marks palsy of the buccinator muscles, so frequent in apoplexy; moreover, the paralysed limbs are rigid, as a rule, in General Paralysis, and often in violent action; the reverse of this rule obtaining in cases of blood being suddenly poured out upon or into the brain tissue." (Ibid.)

The form of apoplectic seizure which according to our experience is most likely to be confounded with the fits of General Paralysis is that of congestive apoplexy, occurring in patients suffering from atrophy of the brain. These seizures, which, so far as we have been able to observe, exactly resemble those of General Paralysis, are so frequent in demented persons undergoing gradual degradation of the brain, as to appear greatly to diminish the diagnostic value of the fits in General Paralysis, since the character of the disease must be determined by the existence of other symptoms, namely, the mental and physical symptoms of General Paralysis, or of common Dementia. The

age of the patient is of some importance in determining this point; the cerebral decay accompanied by Dementia being mostly met with in persons of advanced age, while General Paralysis is peculiarly a disease of middle life. On this point Dr Harrington Tuke remarks :—"It seldom appears before the thirtieth or later than the sixtieth year of life; practically, there is in childhood, youth and old age, an immunity from General Paralysis. I have never seen a case of General Paralysis younger than thirty, or older—when the disease commenced—than sixty. The age of the youngest case which came under Calmeil's observation is given by him as being twenty-eight, the oldest sixty-two; while the average age at which the patients under his care had been first attacked by the malady appears to have been forty-four." (Ibid.)

The Detection of Feigned Insanity is one of the most important tasks in the diagnosis of mental disease. When David was "sore afraid of Achish, King of Gath, he changed his behaviour before them, and feigned himself mad in their hands, and scrabbled on the doors of the gate, and let his spittle fall down upon his beard. Then said Achish unto his servants, Lo, ye see the man is mad; wherefore, then, have ye brought him to me? Have I need of madmen, that ye have brought this *fellow* to play the madman in my presence? Shall this *fellow* come into my house?" From whence it appears, that not only did King Achish make a bad diagnosis, but that the prejudice against the insane is as old as the earliest records. Reverting to profane history, we find that Palamedes had more diagnostic acumen than the King of Gath. Ulysses feigned Insanity, to escape the Trojan war. He yoked a bull and a horse together, ploughed the sea-shore, and sowed salt instead of corn. Palamedes detected the deception by placing the infant son of the King of Ithica in the line of the furrow, and observing the pretended lunatic turn the plough aside—an act of discretion which was considered a sufficient proof that his madness was not real. At the present day, one would scarcely pronounce that a man was feigning madness because he retained enough of intelligence to recognise, and to avoid the destruction of his own son; but the signs of madness adopted by Ulysses resembled in a remarkable manner the conduct of feigning madmen as they exist, and which to an experienced alienist, would at once suggest the idea of deception. The feigning madman, in all ages, has been apt to fall into the error of believing that

conduct utterly outrageous and absurd is the peculiar characteristic of Insanity. The absurd conduct of the real madman does not indicate a total subversion of the intelligence; it is not utterly at variance with the reasoning processes; but it is consistent either with certain delusive ideas, or with a certain perverted state of the emotions. In the great majority of cases, feigned Insanity is detected by the part being overacted in outrageousness and absurdity of conduct, and by the neglect of those changes in the emotions and propensities, which form the more important part of real Insanity. Sometimes Mania is simulated: the man howls, raves, distorts his features and his postures, grovels on the ground, or rushes about his room and commits numberless acts of violence and destructiveness. If he has had the opportunity of observing a few cases of real Insanity, and if he is a good mimic, he may succeed in inducing a person who only watches him for a few minutes, to believe that he is in the presence of a case of acute Mania; but if the case is watched for a few hours or days, the deception becomes apparent. No muscular endurance, and no tenacity of purpose, will enable a sane man to keep up the resemblance of acute Mania for a long time: nature soon becomes exhausted, and the would-be patient rests, and at length, sleeps, The constant agitation, accompanied by symptoms of febrile disturbance, by rapid pulse, foul tongue, dry and harsh or pallid clammy skin, and the long-continued sleeplessness of acute Mania, cannot be successfully imitated. The state of the skin alone will frequently be enough to unmask the pretender. If this is found to be healthy in feeling, and sweating from the exertion of voluntary excitement and effort, it will afford good grounds for suspicion. If after this the patient is found to sleep soundly and composedly, there will be little doubt that the suspicion is correct.

Chronic Mania may be imitated; and if this should be done by an accurate observer of its phenomena, who also happens to be an excellent mimic, it cannot be denied that the imitation may deceive the most skilful alienist. It is remarkable that two of the most perfect pictures of Insanity presented to us in the plays of Shakspeare are instances of feigned madness; namely, the madness of Hamlet, assumed to escape the machinations of his uncle, and that of Edgar, in Lear, assumed to escape the persecutions of his brother. In Hamlet the strange complication appears to be presented of madness feigned by a man of unsound mind; that is, of Mania feigned by a melan-

choliac. These consummate representations of the phenomena of Insanity are so perfect, that in their perusal we are insensibly led to forget they are feigned. In both instances, however, the deception was practised by educated gentlemen; and on the authority of the great dramatic psychologist it may, perhaps, be accepted, that the phenomena of Insanity may be feigned by a skilful actor like Hamlet so perfectly, that no flaw can be detected in the representation. Fortunately for the credit of psychologists, Insanity is rarely feigned except by ignorant and vulgar persons, who are quite unable to construct and to act out a consistent system of disordered mind. It must be remembered, that all the features of every case of Insanity form a consistent whole, which it requires as much intelligence to conceive and to represent, as it does not to conceive and to represent any dramatic character. The idea which the vulgar have of madness is of quite a different kind. They think that madness entirely alters the character of a man's perceptions, and utterly destroys his judgment, so that he not only ploughs the shore and sows salt for seed, but that he cannot recognise his own son, or avoid the destruction of his life. In more homely cases, it will be found, that men feigning Insanity pretend that they cannot read or write, or count ten correctly, or tell the day of the week, or how many children they have; they answer every question wrongly, which any real lunatic, who could be made to understand the question and to answer it at all, would certainly answer aright.

Some good illustrations are given in the 'Zeitschrift für Psychiatrie' for December, 1855, upon which Dr. Snell remarks, that "patients suffering from real Imbecility are well enough able to tell the number and the names of those who belong to them, and that they understand and answer questions on such matters in a very different manner from these simulators." "Common people," he observes, "have not the slightest rational idea of Insanity; they believe that all mental manifestations are completely altered in it, and that an insane person knows nothing; that he ceases to read, to write, and to reckon; and that all his relations and conditions are completely reversed. Hence it happens that all uninformed people find it difficult to acknowledge actual Insanity. When they speak of an insane person, they say that he is not mad, that he knows every one about him, and that he altogether conducts himself like a reasonable man, only that he shows some peculiarities. Uneducated people have the

idea that an evil spirit, as it were, takes possession of an insane man, and drives out his being with altogether new and perverted elements. Where they observe memory, reflection, feeling of right and wrong, they think that Insanity cannot exist; and yet among the insane, all these things are seldom altogether wanting, and often exist in a high degree. On this rock simulators generally make shipwreck, if they attempt a part at all active. But it is more difficult to form a judgment if the simulator preserves a complete passiveness and an obstinate silence. It is not impossible that, by these means, Insanity may be simulated with success; yet in order to do so, the simulator must possess a rare strength of will in order, through all observations and tests, to preserve his rôle."

In the following case, the simulator was in his first attempt successful in deceiving ourselves and other medical men. W. Warren was a notorious thief, indicted at the Devonshire assizes, 18—, for felony; previous convictions having been proved against him, he was sentenced to transportation for fourteen years. Two days after his trial he all at once became apparently insane; he constantly made howling noises, was filthy in his habits, and destroyed his bedding and clothing; he was, however, suspected of malingering, and was detained in gaol three months. During a part of this time it was found needful to keep him in a strait waistcoat. At length certificates of his insanity were forwarded to the Secretary of State, and he was ordered to be removed to the Devon County Asylum. On admission into this asylum, he was certainly very feeble, and in weak health. He had an oppressed and stupid expression of face; he answered no questions, but muttered constantly to himself; he retained the same position for hours, either in a standing or sitting posture; he was not dirty in his habits, though he appeared to be suffering from Acute Dementia. In three weeks' time he recovered bodily strength, and his mind became gradually clear. This change was too rapid not to suggest the idea of deception, but the previous symptoms of Dementia had been so true to nature that we still thought the Insanity might not have been feigned. For a period of eight months he was well conducted and industrious, and showed no symptoms of insanity. At the end of that time he was returned to the gaol, to undergo his sentence; and, within one hour of his readmission within its portals, he was apparently affected with a relapse of his mental disease. From this time, for a

period of two years, this indomitable man persisted in simulating mental disease. He refused to answer all questions; walking to and fro in his cell, he constantly muttered to himself, and sometimes made howling noises, which disturbed the quiet of the prison. Sometimes he refused his food for days together. He employed his time in walking to and fro in his cell, muttering unintelligibly; or in beating at the door of his cell; or in turning his bedclothes over and over, as if looking for something. He had a very stupid expression of face, heightened by inflammation of the eyes from the lashes growing inwards. He slept soundly. For some months he was very filthy; this habit was cured by the governor of the prison ordering him to be put into a hot bath,—hot enough to be painful, but not to scald; he jumped out of the bath with more energy than he had before shown, and thenceforth did not repeat his filthy practices. We visited him several times in prison, and expressed our positive opinion that his Insanity was feigned. With the exception of uncleanly habits, he maintained all the symptoms of Insanity which he had adopted for two whole years; his resolution then suddenly gave way, he acknowledged his deception, and requested Mr Rose, the governor of the prison, to forward him as soon as might be to the government dêpot for convicts. In this remarkable case, the perseverance of the simulator, his refusal to converse, or to answer questions, and the general truthfulness of his representation, made it most difficult to arrive at a decisive opinion. Still the rapidity of his recovery, in the first instance, and the suddenness of his relapse, in the second, were inconsistent with the course of that form of Insanity to which his appearance presented so striking a resemblance. Our opinion, therefore, was formed upon a history of the case, and not upon any obvious inconsistency in the symptoms.

Whether the following case was or was not one of simulation, cannot yet be known; the recapture of the convict may perhaps hereafter determine the question. John Jakes was convicted at the Devon Easter Session, 1855, of pocket-picking; previous convictions having been proved, he was sentenced to four years' penal servitude. On hearing the sentence, he fell down in the dock as if in a fit of apoplexy; when removed to the gaol he was found to be hemiplegic, and apparently demented. He, however, did some things which did not belong to Dementia following apoplexy; for instance, he was designedly filthy, and

even ate his own excrements. His insanity was certified by the surgeon of the gaol, and by a second medical man, and he was removed to the asylum. Notwithstanding the medical certificates of his insanity, the convicting magistrates, who knew his character as a burglar and criminal of great ability, thought he was feigning. Warned by them, we examined the man carefully; he had all the symptoms of hemiplegia; the toe dragged in walking, the uncertain grasp of the hand, a slight drawing of the features, the tongue thrust to the paralysed side, all these symptoms were present in a manner so true to nature, that, if they were feigned, the representation was a consummate piece of acting, founded upon accurate observation. In the asylum the patient was not dirty; he was tranquil, and apparently demented. He had to be fed, to be dressed, to be undressed, and to be led from place to place; he could not be made to speak; he slept well. On the night of the 17th of August, 1856, he effected his escape from the asylum, in a manner that convinced the magistrates that their opinion of his simulation was just, and that he had succeeded in deceiving some four or five medical men. He converted the handle of a tin cup into a false key, wherewith he unlocked a window guard; through the window he escaped by night into the garden; from thence he clambered over a door, eight feet high, and afterwards over a wall of the same height. He got clear away, probably joined his old associates, and has never been heard of since.

It is hard to say which is the least improbable—a representation of Hemiplegia and Dementia, so perfect as to deceive several medical men, forewarned against deception; or the escape of a really paralytic patient by the means described. It must be remembered that the patient was an accomplished housebreaker, and that things impossible to other lunatics might have been accomplished by him. A third though scarcely more probable explanation was offered, namely, that he was assisted in his escape by old comrades.

The earlier writers on Insanity lay down excellent rules for the detection of feigned Insanity, although some of them are of a nature which the humanity of the present age would forbid, and others require to be accepted with precaution. Sometimes the threat of severe modes of treatment, or even of punishment, has proved successful in discovering feigned disease. Zacchias relates that an able physician ordered, in the hearing of a

suspected person, that he should be severely whipped, on the ground that if really insane, the whipping would produce an irritation on the external parts which would tend to alleviate the disease; and if not he would not be able to stand so severe a test. The threat alone served to cure the pretended malady. Another instance was detected by Fodéré, who ordered a red-hot iron to be applied between the shoulders of a woman who was accused of several highway robberies, and who feigned Insanity with great skill. The patient at once discontinued her objectionable habits, and Fodéré certified to her sanity. It must not, however, be forgotten that measures which may be either heroic treatment, or torture, might in some instances not be without their effect upon the really insane; but any extra professional or non-therapeutic infliction of pain is, undoubtedly, beyond the province of the physician.

The operation of medicines, suitable to the treatment of the insane, is a more justifiable experiment for the detection of feigned Insanity, and one likely to be more successful than the infliction of punishment. An instructive example of this kind is given in Beck's 'Medical Jurisprudence,' from the narrative of Prof. Monteggia. A criminal, denounced by his accomplices, became suddenly attacked with Insanity; sometimes it seemed to be Melancholia, then exhilarating Insanity, and then Dementia; he made no answers to questions except by single words, as book, priest, crown, crucifix. "In his presence the physician stated that there were several peculiarities in the case, and among these, that he made noise during the night, and was quiet in the daytime; that he never sighed, and that he never fixed his eyes on any object. The drift of this conversation was, that the opposite of all these would induce them to suppose him insane; shortly after, in fact, he ceased making noise at night, and did everything which they had indicated." When Monteggia was ordered to visit him, he appeared demented; could not look at a person steadily; never spoke, but made a hissing noise at the sight of anything that pleased or displeased him; he was constantly in motion, and it was the opinion of his attendants that he scarcely ever slept. Monteggia ordered six grains of opium to be mixed in his soup, but without any effect. Some days after, this dose was repeated; but seeing, after six hours, no proof of its operation, it was again repeated; notwithstanding this, he passed the night and the next day awake. The next night he seemed disturbed, raised himself in

bed, sighed profoundly, and exclaimed, "My God, I am dying!" His attendant, who had never heard his voice before, was extremely frightened, and sent immediately for Monteggia. The patient was tranquil, and speaking sensibly, without any appearance of Insanity; he said he had no recollection of the past, but he had heard persons say that poisoned soup had been given him. From this time he appeared cured. Monteggia seems to be of opinion that actual Dementia had resulted from long feigning. May it not be that the powers of the opium were resisted by mental tension and voluntary effort? The case is certainly as anomalous as it is interesting.

There are few cases of feigned Mania which need any resort to the pharmacopœia for the means of detection, the voluntary exertions of the feigning maniac generally resulting in exhaustion, and in sleep both natural and sound. A dose of opium may, however, sometimes expedite the discovery, if the means of patiently watching the movements of the suspected feigner are not available. In France chloroform has recently been employed, for the purpose of discriminating between real and feigned Insanity, it being supposed that, during the intoxication produced by chloroform, a real madman will continue to rave on the subjects of his delusions; and that a person feigning madness will be overcome by its influence, and allow his imposition to be unveiled. We entertain doubts on both of these points. At least we have verified by repeated experiments, that a real maniac under the influence of chloroform, administered to a degree short of producing coma, will sometimes, under its transitory influence, become tranquil and docile.

In the detection of feigned Insanity, much stress has been laid by writers upon the suddenness of the attack, which, they say, distinguishes it from real Insanity, whose invasion is gradual. This point of diagnosis must be accepted, however, with much caution. We have known real cases of Mania manifest themselves with the utmost suddenness; we have known patients who went to bed apparently in good health, awake in a state of Mania; we have known patients become suddenly maniacal under the influence of exciting and denunciatory preaching, and during other conditions of intense temporary excitement. Doubtless, in all these cases the brain was previously prepared for the sudden explosion, but the symptoms of latent disease had not attracted any observation; and therefore in a

diagnostic point of view, the sudden outburst of real Insanity must be accepted as possible.

The most important diagnostic point of feigned Insanity is the want of coherence in its manifestations, their unconformity, not only with mental disease in general, but with the form or variety of Insanity which is feigned in particular. Not only, as before stated, does the feigner overdo the intellectual perversions and absurdities, and the outrageous or irrational conduct of Insanity, to the neglect of emotional disturbance, but he mixes the various forms of Insanity together. Thus in Monteggia's case, the patient vacillated between Melancholia, exhilarating Insanity, and complete Dementia. In the case of William Warren, the symptoms, when he was first in prison, were those of Mania; at the asylum, they were those of Dementia; and, on his return to prison, they were those of mixed Mania and Dementia. In Jakes' case, the clever imitation of Dementia following apoplexy was injured by the introduction of maniacal symptoms, such as the eating of his own ordure.

To deceive a skilful alienist, who takes pains patiently and fully to investigate the case, the simulator of Insanity must, if he displays any active symptoms, not only have carefully observed the symptoms of those who are truly insane, but be able himself to represent those symptoms, with powers of imitation which are possessed by few. How hard it is on the stage, and for a few minutes only, for a man to represent the manners of a sailor, a peasant, an old man, or any other characteristic manners, so that the deception shall be acknowledged complete! But the histrionic powers of a feigning maniac or melancholiac must be kept for days and weeks on the stretch, in the representation of manners and modes of thought far more difficult to imitate than those which are usually the subject of histrionic art. Dr Rush is reported to have discriminated feigned from real Insanity by the relative rapidity of the pulse; Dr Knight and other writers have claimed the same power for the sense of smell. Much reliance, however, is not to be placed upon any one, or even upon several, of the physical signs of nervous disturbance. They have a scientific, but scarcely a diagnostic value. They may serve to direct the inquiries of the physician, or even to confirm his opinion founded upon other data; but, standing by themselves, they are of little importance in the diagnosis of Insanity.

The Diagnosis of Concealed Insanity (*insania occulta*) is to be

made on the general principles laid down in the previous pages. Some patients are to be met with who converse and reason well on all subjects except those connected with some delusive opinion. One of the most remarkable instances on record is that of a man named Wood, who brought an action against Dr Munro for false imprisonment, and underwent the most severe examination by the defendant's counsel without exposing his disease. Dr Battie suggested to the judge (Mansfield) to ask him what was become of the princess with whom he corresponded in cherry juice? and immediately a whole group of delusions became apparent. Wood indicted Dr Munro a second time, for false imprisonment, in the city of London, "and such," said Lord Mansfield, "is the extraordinary subtlety and cunning of madmen, that when he was cross-examined on the trial in London, as he had successfully been before, in order to expose his madness, all the ingenuity of the bar, and all the authority of the court, could not make him say a single syllable upon that topic which had put an end to the indictment before, although he had still the same indelible impression upon his mind, as he had signified to those who were near him; but, conscious that his delusion had occasioned his defeat at Westminster, he obstinately persisted in holding it back." This and other cases which might be quoted, refute Heinroth's assertion that although patients can *conceal*, they never can *deny* their fixed ideas. Doubtless, in the majority of cases, Heinroth's opinion is correct; and people who, when sane, were not remarkable for veracity, who would not indeed scruple to utter any amount of falsehood whenever their interest seemed to require it, overlook every advantage, and stand at no absurdity or disgrace, when they have a delusive idea to maintain.

The first principle of interrogation, in ranging the mind for a delusive idea, is to converse freely and naturally with the patient on the subject of all his relations, his relation to God, to his neighbour, including his wife, parents, children, those in authority over him, and those over whom he may have authority; his relation to property, his indebtedness, or his fortune; his profession, his ambition, his desire of wealth or of rank; his bodily health, his studies, his amusements, his history. Heinroth proposes that the physician should narrate the patient's own history disguised as the history of the physician, in order that the patient may suppose a parallel between his own case and that of his examiner, so that the *dulce habere socium*

malorum may elicit circumstances which he would otherwise have concealed (Wharton and Stillè). This round-about proceeding would, we fear, in most cases, tend rather to excite the suspicions than to elicit the confidence of the patient; still, if the patient refuses to talk of himself, the physician has no option but to talk of himself, or of third persons, and by the expressions of opinions likely to be challenged by the patient, thus to draw him into discussions which may eventually betray the morbid train of thought. If the patient is much below the social rank of the physician, assistance may be often obtained from persons of the patient's own position and modes of thought. A man whose ideas revolve in the narrow circle of a peasant's uncultivated mind, will often put himself into a mental posture of silent and sullen antagonism to all persons whom he considers above him, while he will expand and communicate freely to his equals and ordinary associates. Frequently in asylums it is found that the insane discover the delusions of the insane more rapidly than others can do.

If the patient can write, he should always be freely encouraged to do so. Insane patients, it is true, often write letters which bear no impress of their delusions. Men who constantly converse and act irrationally, will write letters on matters of business with good sense and precision. But the opposite of this is sometimes observable; and patients who, in conversation adroitly conceal their delusions, display them with freedom in writing. We have, for many years, had a well-educated man under our care, who can never be brought to speak about his delusive ideas. When pressed he adroitly turns the conversation, or he states his opinions in such a form that they could not be called delusive; that is, he not only conceals, but, to a certain extent, he denies his fixed ideas. Once a month, however, he presents us with a long and closely-written letter, in which his delusions of persecution, forced marriages, &c., are abundantly apparent.

Another patient, a barrister, so completely concealed and denied his delusions in conversation, that he succeeded in persuading his relatives, and especially his mother, a woman of rare intelligence and discrimination, into the belief of his perfect recovery from an attack of Mania, and of his capacity to resume his professional labours. During the whole of this time he was writing letters to relatives living at a distance, full of delusion relating to his supposed marriage with a servant, to

the distribution of a large fortune which he did not possess, and to a yacht voyage to every part of the globe.

The conduct of the patient should be observed by night as well as by day. We have for several years had under our care a respectable tradesman, whose conduct and conversation, during the day, exhibit scarcely a trace of mental disease. He is industrious, sensible, and kind-hearted; and it is strange that his nights of suffering have left no painful impression on his pleasing features. At night he sees spectres of demons and spirits, at which he raves aloud, and prays with energetic fervour.

That it is important to test the memory and the capacity by examinations, repeated at various times, is shown by the case recorded by Sir H. Halford, in his Essays. A gentleman sent for a solicitor, gave instructions for his will, and told the solicitor that he should make him his heir; soon after this he became deranged. After a month's violence he was composed and comfortable, and manifested great anxiety to make his will. This request was evaded as long as possible, but at last consented to. The solicitor received the same instructions as before, the will was drawn, and it was signed by the physicians (Sir Henry Halford and Sir George Tuthill) as witnesses. After leaving the room, and conversing on the delicacy of their situation, the physicians returned to the patient's room, and questioned him how he had left his property. He mentioned the legacies correctly; but when asked to whom the real estate was to go, he said, "To the heir-at-law, to be sure."

Diagnosis of Recovery.—The foregoing pages have reference mainly to the recognition of the existence of Insanity, but we must not omit to notice the important question whether or not the mental disease, having existed, has or has not terminated? In most cases the solution of this question only bears upon the propriety of continuing or not the care and treatment under which the patient has been placed, whether in an asylum or elsewhere. But in other cases it involves the weighty consideration of whether the person who has been a lunatic shall or shall not obtain the restitution of his personal liberty and the control over his property, which have been taken from him as a lunatic by the action of the law.

Much that has been written in the above pages as to the detection of Insanity in its first invasion applies also to the detection of the remains of Insanity after it has run a certain

course. But there are some considerations peculiar to the question as to whether the patient has or has not recovered.

In the latter inquiry the examiner will very generally have the benefit of fuller and more trustworthy information than in the former one, seeing that the mental disease, while it existed, has probably brought the lunatic under the observation of medical men from whom most valuable information will be derived. The effect of the treatment to which the patient has been subjected will also very generally be found to have diminished the independent spirit of resistance to the imputation of Insanity so often met with in a new lunatic for the first time. On the other hand, it is very likely to have prompted the desire and increased the ability to conceal perverted emotion and delusion.

The one point to determine, of course, is whether there is an absence of insane emotion and delusion, or of such weakness and decay of the functions of the mind, as would incapacitate the individual from conducting himself as a reasonable being, and from taking care of himself and his property.

In many cases the right determination of this question is very delicate and difficult. Time is an element in it of great importance, since the premature removal of a convalescing lunatic from all care and treatment may be attended by most disastrous results, by danger to life, or ruin to property, or by a relapse from which recovery never takes place; while reasonable delay in the complete restitution of liberty of action and of social rehabilitation is rarely so important to a recovered lunatic, as the determination of the question of sanity or Insanity at the commencement. Though recoveries from mental disease are sometimes rapid, they are, perhaps, never sudden, and the history of the improvement, when it can be obtained from intelligent observers and still more so from the patient himself, will greatly assist the medical man in the formation of his opinion.

More than usual caution has to be observed when the patient supposed to have recovered denies the undoubted facts of his previous Insanity; but this can only be stated as a rule with many exceptions. Some recovered patients actually forget all the incidents of their mental disease. From the time when they began to sicken in their mental health to the time when they have fairly begun to recover, there has been a blank in memory, and it cannot be expected that such persons should admit past extravagances or incapacities of conversation or con-

duct of which they may be said to have no knowledge. Some other patients who have really recovered remember incidents of their past insane conduct, and insane thoughts, in a manner very different from the remembrance of sane persons. They look upon them through a medium out of which they have indeed passed, but which still exists to obscure or distort the retrospective mental vision. Such cases are very perplexing, but the physician has to consider that it is not the correct remembrance of past phases of mind, but its existing condition, upon which he has to determine the question of recovery, and, undoubtedly, a patient may have a most confused and distorted recollection of the events which occurred during his past disease, and be able to give but poor reasons and reflections about them, notwithstanding that he has really made a good recovery. Certainly it is infinitely more satisfactory when the patient can give a clear account of his past trouble, and when he can not only describe the course of events—the history of past insane thought and conduct—and can fully appreciate their nature, but when he also estimates rightly the conduct of others towards him during the time of his aberration and under circumstances which are rarely devoid of perplexity and distress.

When patients retain animosity towards those who have acted for them to the best of their ability during the troublous times of lunacy, a sense of injustice and sorrow may result, but this is not always a sure sign that recovery has not taken place. On the other hand, candid admission of the past mental aberration, and grateful acknowledgment of services rendered at its outbreak and during its course are, fortunately, the most frequent assurances of complete recovery.

Care should be taken lest when a recovered patient tells the simple truth, it should be considered a delusion. We well remember the case of a young man who had an attack of Mania following a drunken debauch. He was placed in an asylum and his maniacal symptoms disappeared, but he related circumstances which occurred in the asylum which were held to be delusions. The course of events, however, made it apparent that they were not so, and he recovered his liberty a long time after it was due. It is needful in all these inquiries to discriminate between the impossible and the improbable. It is improbable that a sane English lady should habitually carry a dagger in her bosom; but Lord Shaftesbury, whose knowledge of lunacy, even considering his immense experience as Chairman

of the Lunacy Commission, is quite extraordinary in a layman, was able to tell the House of Lords, in the debate on the Lunacy Regulation Bill, how a lady was certified to be insane on account of such an act, although she belonged to a class of ladies with whom at that time it was the fashion and custom to carry daggers to such an extent that the manufacture of ladies' daggers had become quite a business. Of course the poor doctor knew nothing of this new fashion and was thrown quite out of his calculations.

> "There are more things in heaven and earth, Horatio,
> Than are dreamt of in thy philosophy."

The man who told the torrid sultan of water being solidified by cold was deemed a lunatic; and Paul was thought mad because he had a new moral truth to tell. He who was to judge of other minds ought not, as Lord Shaftesbury well said, to be "*borné*" in his own knowledge of that which is possible.

After the examiner has satisfied himself that in the lunatic supposed to have recovered, there is no longer any trace of insane emotion or delusion, he has to pursue the difficult inquiry as to whether there is any weakness of mind left as the result of disease which amounts to incapacity.

The rule has been laid down that the test of perfect recovery is to compare the man with his former self, and if he is found to be in all respects of thought, feeling, and mental power, as he was before the attack, the recovery is assured. But, practically, an important allowance has frequently to be made in the application of this rule, since it is certain that no man is quite the same after any formidable disease has run its course in him as he was before, and this is emphatically true of disease of the brain affecting the mind, and probably no man is ever quite the same after an attack of Insanity as he was before. Permanent change is frequently observed in the temper and feelings; less frequently it is seen in queer ideas and odd trains of thought which are not actual delusions and do not amount to the acknowledged symptoms of Insanity, but which justify the lively apprehension of relapse and which demand great caution in the entire removal of care and control.

The most frequent result, however, of past disease in a lunatic who has practically recovered, is some weakness or infirmity in the intellectual functions. After a severe attack of Insanity of long duration this result would, no doubt, be invariably observed, if mind could be measured with the same accuracy as other

forces. With our inefficient means of observation it is often not perceptible; often it is very slightly and doubtfully so to the medical examiner, when it really exists to such a degree as for ever to incapacitate the patient for active mental exertion or for keen emotional and social struggle in life. The results of a long and heavy lunacy in diminishing the powers of mind —the sequelæ of the disease in the direction of Dementia—are exceedingly difficult to detect in their slighter degrees, and when observed, their value has to be weighed in the balance of practical common sense, as to how far they will be likely to affect the safety and welfare of the individual when freed from care and control.

It would not be common sense but nonsense, for instance, to refuse to recognise the recovery of a lunatic because he was unable to solve a most difficult problem in arithmetic; nor, on the other hand, would it be common sense to give control over property to a person in whom the deteriorating results of mental disease had destroyed all correct notion of the relative value of numbers. In examining such a person, an educated lady, who had become demented, she told us that the rent she paid for her lodgings was a £100 a year. We thereupon asked her what that would amount to a week. The reply which we hoped to elicit, of course, was that it would be about two pounds a week, but the lady was demented, and was utterly unable to say that, or to decide whether it would not be five or ten pounds a week or any other sum. The astute legal advocates of the lady's sanity made it appear at the Inquisition that our question was absurd, inasmuch as the accurate answer to the question involved the exercise of high arithmetical attainments. In reality, no question could have been more simple and commonplace than the one we put, considering the weakness of the mind which we were testing, and it is not easy to conceive a lower depth of sophistry than that to which the learned lawyers descended. On the principle they attempted to establish, no common-sense practical question could ever be put to a person of feeble intellect unless the questioner was prepared to give an answer himself which could not be debated. Suppose the right answer to the above question down to the high decimal of a penny had been given, the astute lawyer might have inquired how the examiner knew that it was correct, and how he had ascertained that the year contained so many days, hours, minutes, and seconds as to make it correct, and thus he might have led the

unfortunate physician into the heights of astronomy as well as into the profundities of numerical science. What the physician has to do is to ask questions adapted to the capacity of the mind which he is examining; and the division of a hundred pounds into fifty or even into fifty-two parts was such a question as an educated person with mind unenfeebled by disease would have had little difficulty in answering. After all it is the physician who holds to the practical facts indicating mental disease, and the lawyer who ever attempts to subtilise them into vacuous sophistry. Except in Inquisitions lawyers rarely have the opportunity of examining lunatics themselves, and probably this is the reason why they appear quite incapable of understanding how it is that physicians come to a very decided opinion, one way or the other, upon the consideration of a number of signs and symptoms, each one of which taken by itself may seem trivial. The lawyer is ever asking for a pathognomonic sign of lunacy, an infallible brand which cannot be mistaken. He asks the physician to show him the one distinguishing mark like the pustule peculiar to smallpox, and when the physician describes a group of symptoms which taken together can leave no possible doubt in any mind trained to understand the evidences of natural science, the legal logician takes each symptom by itself, and after proving that no single one of them all is a sure indication, he too often maintains the illogical conclusion that the combination proves nothing. The value of circumstantial evidence ought to teach him otherwise.

The symptoms of recovery are, first, a change for the better, more or less gradual, from the former state, to be observed by the examiner or ascertained from others. Then the symptoms which ought to be observed at the time of the examination are—

1st. A natural and healthy state of the emotions.

2nd. The absence of insane ideas or delusions.

3rd. The possession of sufficient powers of attention, memory, and judgment to enable the individual to take his part as a free member of society.

4th. Tranquil and reasonable conduct.

When these four symptoms of recovery coexist there can be no doubt that recovery has taken place. When any one of them is absent, the amount of aberration must be taken into consideration together with the history of the case in coming to an opinion. Thus any strange notion which seems but the remains

of a dangerous delusion ought to induce great caution. A man who has entertained the delusion that his friends have conspired to take away his life, may appear sane in all respects excepting that he maintains that he has always been of sound mind, and that his friends have been harsh and mistaken in their treatment of him. Herein is just cause of suspicion and doubt of actual recovery. Another has become insane from Indian sunstroke, and has had several relapses. He appears now to be sane and sound with the exception of great irritability of temper. The case is very doubtful, for these attacks from sunstroke are peculiarly liable to relapse and also to manifest passionate exacerbations.

The length of time which has passed without relapse is an important consideration, for it is often not so difficult to say that a man is fit to be free in his present condition as to prognosticate that he will remain so, the fear being that with enlarged freedom and stronger temptation to excitement, the present condition will not continue. The longer it has lasted and the greater the freedom of action which has been accorded, the smaller the risk which will attend the removal of all constraint.

Infinitely the most arduous cases are those in which the lunatic has been afflicted with that form of Insanity in which the emotions and instincts are more involved than the intellect. A man cannot very easily conceal weakness or aberration of the intellectual functions from a patient and skilful examiner, but there is no way of getting at the real state of the feelings. A man may appear perfectly reasonable and intellectually competent, while from obscure disease of the brain he is under the terrible temptation to take away the lives of others or that of himself, and that without assignable motive. Tired of restraint and covetous of freedom, he may deny pertinaciously that such an emotional state continues to exist in him. How to ascertain the truth in this matter we know not. We only know that painful experience has taught us extreme caution and distrust in such cases, and that long observation has convinced us that cases in which the tendency to homicide or to self-murder has been the most marked feature of mental disorder very seldom recover.

A distinction ought to be drawn between such cases and those in which homicidal violence has been developed in the course of ordinary Mania. The madman who in a paroxysm of fury seizes

a weapon and attacks his wife, his child, or his doctor may, and frequently does, recover perfectly, and the recovery is to be judged of on common principles, without reference to the accidents of violence which in many instances were the result of want of care and forethought on the part of those who were or ought to have been in charge of the lunatic. Unreasonable violence is a common incident in lunacy; the carelessness and ignorance only of the friends or attendants make it dangerous to life. But it is quite a different thing with the homicidal lunatic who has never been maniacal or furious. If the homicidal tendency has been connected with delusion, the disappearance of the delusion is to a great extent an assurance of safety. But there are cases in which no delusion has ever been discovered, yet in which the motiveless propensity to homicide or suicide appears to be stronger, more irresistible and persistent than in any others. It is true that these cases usually have some concomitant signs and symptoms of disease, either strong hereditary tendency or sufficient accidental cause of brain disease accompanied by physical symptoms of brain and nerve disturbance and often by slight Dementia. These symptoms may disappear and yet the dangerous tendency remain. We hope never to be called upon to pronounce that such a person has perfectly recovered and is quite safe, for we know not on what grounds we should do so.

A physician who has large experience in lunacy will not neglect in doubtful cases to make inquiries in out-of-the-way and extraordinary directions. We have known lunatics who appeared sane during the day, yet who raved during the night. This is sometimes peculiarly inconvenient and embarrassing unless the physician can make arrangements to listen outside the lunatic's chamber door. We have known such a state of affairs alleged in a licensed house in explanation and support of the detention of a doubtful lunatic who, on removal to other care, suddenly ceased his nocturnal ravings and insane threats. Still it is a fact within our own observation that such cases do sometimes occur. Another curious fact with regard to lunatics who appear to have recovered is that in certain narrow directions and towards certain persons they are still insane. We know a a lady whose conversation and conduct is perfectly reasonable towards all the world excepting towards her husband. In his presence she is no longer sane, and in his absence she writes to him a daily letter strongly marked with Insanity.

An examination of the letters of lunatics supposed to have recovered should never be omitted in doubtful cases. We have known several instances in which no aberration or defect of mind could be detected in the conversation or conduct, and yet the profuse letters of the lunatic were full of obscene abominations and monstrous delusions. We once gave evidence at an Inquisition at which an alleged lunatic defended himself before a jury with remarkable skill and acuteness, and of whom, from his behaviour and ability in court, no suspicion of Insanity could have been entertained. We produced a roll of his letters written down to the very date, which teemed with delusions of conspiracies, obscenities, and miracles, and which proved the man as dangerous a lunatic as well could be.

Connected with the question of general Diagnosis of Insanity is that of Unnatural Crime, which in this country is so strange and uncommon as to lead to the supposition that persons guilty of it must be out of their minds. We have known instances in which persons who were simply criminals of this kind have escaped from the punishment which the law would have awarded them, by willingly availing themselves of the imputation of lunacy. In these cases the habit of unnatural crime had been acquired in foreign countries where it was common, and where its practice would certainly not have been considered a proof of lunacy. It is difficult to believe that any practice, however revolting, which is in common use in any country can be evidence of the lunacy even of strangers who are vicious enough to conform to it, and it is commonly believed that this crime which was habitual to the people who dwelt in the Cities of the Plain, is not less common in those countries of the south and east where these miserable Englishmen had contracted the contamination. They certainly were not lunatics, and the fact that they were allowed to find shelter under the lunacy laws was a proof of very fallible diagnosis.

The whole question of the relationship between crime and Insanity is too large and complicated to be entered on in this place. Perhaps no broad principles of general application can be laid down, nor the question ever be satisfactorily argued except on a concrete case. In such cases the thorough and honest examination of the criminal will decide the question of his state of mind at the time of the examination, although it will necessarily leave the difficulty of determining his state of mind at the date of the crime. A man may be of unsound mind

when he commits a murder and quite sane when he is examined some weeks afterwards, or the contrary may happen. It is not often that a sane man commits a great crime on principles which he avows and adheres to, and yet which sound so strange to the ear of law-abiding men that they suggest the idea of lunacy. Such was the case, however, in the instances of Victor Townley and of Constance Kent, who were both sane criminals. Townley destroyed himself in prison, and a sapient coroner's jury brought in a verdict of Insanity because it was impossible to them to conceive that any sane man could be guilty of murder and of self-murder. In conjunction with the late Sir Charles Hood and the late Dr Meyer we examined this criminal in Bethlem, and we were all thoroughly convinced that he was of sound mind. At this examination we asked him whether he thought that he would be justified in taking away his own life if he were tired of it, and he replied, "I think that when any man is unhappy and uncomfortable in this life and sees no prospect of change for the better, he is quite right to put an end to it." On this declaration and on study of his character we expressed to our colleagues our full expectation that he would commit suicide, and he did. This last act tended to make more clear the determined character and the godless principles of the man who had committed a deliberate and brutal murder, but it no more proved that he was insane than the calculated suicide of an ancient Roman or the happy dispatch of a Japanese would prove the same of either of them.

CHAPTER VI

PATHOLOGY OF INSANITY

The widely differing opinions which are entertained by the ablest physicians respecting the pathology of Insanity, clearly show that there is some difficulty at the bottom of the question, greater than that which exists in determining the nature of other classes of disease. The source of this difficulty is not hard to find. A rational pathology must ever be founded upon the basis of physiology. It is, indeed, a kind of physiology; it is an account of the abnormal conditions of organisation and of function, which as much depend on the natural laws of our being as do those of health. Fair weather and foul equally depend upon the laws of meteorology. Health and disease equally depend upon the laws of animal life. The division of their study into two departments of pathology and physiology is, therefore, perfectly arbitrary, and useful only for purposes of classification. But the knowledge of the laws of aberration cannot precede, or even be contemporaneous with the knowledge of the normal laws of action. The high-road of health must be well known, before the bye-ways and devious paths which surround it can be investigated.

Greater advances have been made in the knowledge of the physiological laws of all other organs of the body than the brain, and the increase of this knowledge ever indicates a closer relation to the obvious adaptation of each organ to the discharge of its function. The adaptation of the heart to the propulsion of the blood, the adaptation of the intestinal canal to the processes of digestion and nutrition, and of the lungs to those of respiration, are so obvious and so simple, that a positive knowledge of the laws of their action has been gained, and upon these a rational pathology of their diseases has been founded.

But it is quite otherwise with the noble organ which lords it

over the rest of the body. The mass of that which we call nerve-substance, because nerve-function is found to inhere thereunto, possesses no adaptation which we can trace to the ends to which it has been made subservient, An agglomeration of delicate cells in intimate connection with minute tubes or filaments, which communicate impressions made upon the cells at one end, to those fibres and cells which lie at their other extremity; this is the nervous apparatus. Its *modus operandi* is, and perhaps always will be, utterly unknown to us. The knowledge that the different sets of nerve-fibres convey different impressions, is doubtless a fact of much practical importance, but it is far removed from any intimate knowledge of the laws of nerve-force. To claim for these minor details of the nerve-office the dignity of satisfactory physiological knowledge, would be as absurd as to claim the knowledge of an engine or machine, because we saw how the far off wheels acted upon each other, while of the engine itself we knew not whether its motive force was steam, wind, water-power, galvanism, or any other source of movement. But although the connection between the nerve-function and nerve-organisation is a secret which remains veiled from our most anxious scrutiny, still we are acquainted with many of the conditions which this connection requires, and without which it is discontinued. We know that if that dominant nerve-mass—the brain—is not supplied with a due amount of plasma from the blood; or if plasma is supplied to it containing noxious substances, such as urea, or narcotics; or if it is subject to pressure, or receives a rude concussion, or if it is over-stimulated and deprived of due repose, its functions are interrupted or perverted. In default, therefore, of real knowledge respecting the conditions of nerve-function, we must be satisfied with the recognition of the fact, that the great organ of this function is subjected to the general laws of decay and reparation of animal tissues, and to some other laws having special reference to its own degeneration and repair. It is upon this physiological basis only that, in default of more precise and extensive knowledge of the changes in the nerve-cell and the generation of nerve-force, cerebral pathology can be established. The one physiological principle upon which we have to build a system of cerebral pathology is, that mental health is dependent upon the due nutrition, stimulation, and repose of the brain; that is, upon the conditions of the exhaustion and reparation of its nerve-substance being maintained in a

healthy and regular state; and that mental disease results from the interruption or disturbance of these conditions.

If we are certain of any one fact in the physiology of the nervous system, it is, that nerve-force is generated in or by the vesicular neurine, and that the tubular or fibrous neurine conducts it. But, what is the nerve-force of the brain? and in what manner is its vesicular neurine active? The result of its activity we know, namely, the ability to receive sensations of all kinds; the power of comparing these sensations, and of storing them for comparison; the power of combining these sensations in new arrangements, of imagining,—not, indeed, new sensations,—but new combinations of them; the power of feeling emotions and propensities.

The activity of the vesicular neurine of the brain is the occasion of all these capabilities and powers. The little cells are the agents of all that is called mind, of all our sensations, thoughts, and desires; and the growth and renovation of these cells are the most ultimate condition of mind with which we are acquainted. If there be more profound conditions, they are beyond our ken, and, so far as we know, there is no better sanction for their existence than the fantastic alliance of spurious physiology and visionary metaphysics.

Recent researches indicate the existence of a remarkable and complex *apparatus* of cells in the cortex of the cerebrum and cerebellum, most resembling the granular and bacillar layers of the retina, and which Virchow thinks "very likely stand in some close connection with the psychical functions." The great pathologist, indeed, entertains little hope that any positive knowledge of the *modus operandi* of this apparatus will be acquired. We merely see more of the machinery, without knowing better how it moves.

The ultimate condition of mind with which we are acquainted being the due nutrition of the brain-cell, it is of the utmost importance to have a clear idea of the manner in which this is effected. The grey substance of the human brain contains millions of vesicles, lying in a semifluid granulated substance (stroma), and bound together by a minute network of capillary blood-vessels and fine areolar tissue. Now, the fundamental truth of physiology being the activity of the cell, and this activity being accompanied by its decay, and demanding its renovation; the markworthy points in the relative position of the brain-cell are,—First, its relation to the nerve-fibre, from

which it receives and to which it conveys impressions, the taking and giving of which are the main causes of its exhaustion; secondly, its relation to the blood-capillary, which exudes a plasma in which the cell is bathed and renovated, and from which new cells are formed to replace those which are finally exhausted.

With regard to the first of these relations, so far as the individual cell is concerned, it would appear, that morbid results could only arise from stimulation so excessive as to hasten the progress of decay beyond the powers of reparation. With regard to the second relation, a crowd of circumstances may occur to interrupt or prevent the growth or reparation of the cell. All states, either physiological or pathological, of the cerebral cell, are occasioned by influences impressed upon it, either by the nerves or blood-vessels, with which it stands in such intimate relation. Whether any changes can be self-originated is doubtful. The laws of its life, transmitted to the cell from the parent organism, include, indeed, the conditions of perpetual change, but the cause of change must be sought for in the nerve or the capillary.

At one time it was the custom to regard diseases as distinct entities, which were capable of being expelled from the body by the art of the physician. To this period succeeded one in which every disease was viewed as a single pathological action. Mental diseases were once thought to be occasioned by evil spirits, which could be exorcised; and by many persons, even at the present time, they are attributed to diseases of the "spiritual essence," or to other conditions pertaining to the mysteries of ontology. An error more recent, and which now even prevails widely, is to refer Insanity to some one or other of the pathological conditions of which the appellations are in the mouths of all men, but the nature and relations to which are appreciated by few. Thus, some attribute Insanity to irritation, others to exhaustion, others to inflammatory action; and these absurdly narrow views are even entertained by medical men who would be quite incapable of attributing all diseases of the stomach or the lungs to one sole pathological state. What would be thought of a physician who, at the present day, should deliberately argue that all diseases to which the lungs are subject are inflammatory; or that all dyspepsias are the result of irritation or of nervous exhaustion? Yet the prevailing methods in which mental diseases are treated of by physicians, who are too

enlightened to submit their intelligence to the theories of spiritual essences, and other exploded absurdities, are of this kind.

The broad view of the production of Insanity appears to be this: The brain, like every other organ of the body, for the perfect performance of its functions requires the perfect condition of its organisation, and its freedom from all pathological states whatever. Consequently, the existence of any pathological state in the organ of the mind changes its healthy functions, and produces a greater or less amount of disease of mind —that is, of Insanity.

Such is the foundation of the pathology of Insanity which we maintain, and of which the particulars will be elucidated hereafter. At present, some attention must be paid to the definition of terms and to the preliminary explanation of views. And first, when we speak of the brain as the organ of the mind, we mean that portion of the cerebral mass which physiological experiment, and observation upon the dead, amply prove to be the seat of mental function. We do not include in the term those portions of the brain lying at its base, which are acknowledged to be but a prolongation and development of the excito-motory and spinal nervous apparatus. Experiment and observation, in our opinion, prove, beyond doubt, that the seat not only of the intellectual, but also of the emotional functions of the brain, is in the convolutions of the cerebrum proper, while the cerebellum and the central masses of grey matter are probably subservient to motion, excited either by the desires, or by impressions upon the nerves of sensation, or upon those of excito-motory action. It is also sufficiently proved that the medullary substance of the brain, forming so large a portion of its mass, is merely a conducting medium. Pathological conditions may exist in this white substance, in the cerebellum, the corpora striata, and thalami, without affecting the mental functions. Sensation and motion will be affected by them; but judgment, memory, and emotion may be left intact. It is true that diseased conditions which affect the mind, also frequently, nay, commonly, affect the lower functions of the nervous system. The state of the muscular system has even been called "the pulse of Insanity;" but the state of these functions in Insanity does not commonly amount to that degree of aberration from the natural functions which we should be justified in calling disease, if it existed by itself. The muscular activity is frequently excited or depressed, but only in

exceptional cases is it perverted and irregular. Moreover, in a great number of instances of Chronic Insanity, the motorial function is in nowise affected. Diseased action, therefore, may be strictly limited to that portion of the brain in which the mental functions are enthroned, and which seems proved to be the grey matter of the convolutions.

On the other hand, disease may affect and be limited to those portions of the cerebral mass which either conduct impressions to or from the seat of mind, or which subserve the function of muscular activity. In this manner, cerebral paralysis of various kinds may occur without mental disease. Circumscribed effusion of blood in the white substance of the brain often produces loss of mental function when it first takes place, from the pressure which it exerts on the grey matter of the convolutions. But when the mischief occasioned by this pressure has been removed by the adaptation of the blood in the cerebral vessels to the contents and capacity of the cranium, the powers of mind return, while those of motion remain injured until the integrity of the torn substance be (if ever) restored. Lesions, or pathological conditions of the conductive or motive parts of the brain, frequently propagate themselves to the seat of the mental functions; and active pathological states of the latter seldom exist without implicating, to a greater or less degree, the integrity of the former. They are parts of the same organ, essentially different, indeed, in function, but so intimately connected, that pathological conditions readily extend themselves from one to the other, both by continuity and by sympathy. All these points of difficulty being admitted, the important fact remains, that diseased conditions which affect the mental functions must have their seat in the grey matter of the cerebral convolutions; and in speaking of disease of the brain in relation to Insanity, we desire, therefore, to be understood as speaking of the cerebral convolutions alone, unless where the contrary is expressed.

We shall take the present opportunity to state, with distinctness, our views of the nature of pathological conditions, not only of the brain, but of all the organs of the body. Diseases have commonly been distinguished into those which are organic and those which are functional. At first the distinction arose from the fact, that in some instances diseased organs presented obvious and palpable changes of structure, while in other instances they presented no such changes.

Diseases which our forefathers called functional, because the rough examinations with which they were content made them acquainted with no changes of structure, have been made known to us by the aid of the microscope as strictly structural diseases. For example, fatty degeneration of the heart and epithelial desquamation of the uriniferous ducts are structural diseases to us; although a short time ago these conditions were regarded as functional. Facts of this kind would of themselves be sufficient to create distrust in the theory of functional disease; but many accomplished physicians still maintain that abnormal vital phenomena may be, and are likely to be, occasioned by dynamic aberrations alone, and that such phenomena are correctly designated as functional disease. We cannot concur in this opinion; and we perfectly agree in the justice of the observation made by the great German chemist, that "everything is specific which we cannot explain; and dynamic is the explanation of all which we do not understand; the terms having been invented merely for the purpose of concealing ignorance by the application of learned epithets."—('Liebig's Chemistry of Agriculture.')

What is called force, of every description, is connected with, and dependent upon, changes in the atoms of matter. Force is the hypothetic agent which underlies the phenomena of material changes; and to affirm that dynamic modifications of vital functions may exist without alterations of material organisation, is to ignore the fundamental principles of philosophic physiology. All disease, therefore, in our opinion, is organic. Not only is this so with diseases which often come under the common observation of the physician, without leaving traces of organic change—asthma, for instance, and angina, and epilepsy—but mental and nervous diseases also, of every kind and form. Not a thrill of sensation can occur, not a flashing thought or a passing feeling can take place without changes in the living organism; much less can diseased sensation, thought or feeling occur, without such changes; changes which very frequently we are not able to detect, and which we may never be able to demonstrate, but of which we are, nevertheless, certain. For whether we adopt the theory that the states and things which we call heat, electricity, vitality, &c., are distinct entities, or what is called imponderable matter, or the far more probable theory that they are only phenomena belonging to ordinary ponderable matter, an atom or a cell surcharged with electricity

or heat, or in a state of chemical activity, is essentially in a different condition from a cell or an atom in chemical or electrical equilibrium with surrounding substances. Alterations, therefore, of what are called dynamic force cannot exist without corresponding changes in material condition, and if it were possible to suppose that the cells of a living structure, in a state of disease, can only differ from the cells of the same structure in a state of health, by an alteration in their electric states, this will in itself constitute a difference of material, capable perhaps of being readjusted. Although it may hereafter be proved that all forces are not merely correlated but identical, there is as yet small ground for supposing that vital force and electrical force are the same, or that anomalous action of living bodies ever depends upon the mere distribution or activity of such force. The only force capable of explaining any of the phenomena of life is the chemical one, and this only in a state of constant activity and interminable change. In a state of health such change takes place within a range, the limits of which permit beneficial and restrict injurious action; in a state of disease the range of chemical change is widened or contracted, so that mischief results from excess of action, or the well-being of the organism is lost by deficient action. In either case, the chemical composition of the cells cannot fail to be altered from the standard of health; and alteration of chemical composition with or without changes of density is the real groundwork of organic disease, since it invariably interrupts the healthy function of the part affected. The abnormal states which depend upon an altered condition of the blood are not less strictly organic than all other diseases; for not only can no change take place in the composition of the blood, without in some degree affecting all the parts which are nourished thereby, but this fluid is, strictly speaking, itself a living cellular organism, and every change which takes place therein is organic.

It may seem superfluous, after having expressed our opinion that the noblest functions of the healthy nervous system are invariably accompanied by organic changes therein, that we should argue such changes must exist when the functions are performed abnormally. It is true that the greater proposition, that function is always accompanied by organic change, includes the lesser proposition, that diseased function is so accompanied; but the latter has a difficulty to contend with, from which the

former proposition is free,—it has to oppose and subvert a long-established erroneous theory.

Nosological arrangements and classifications are, to a great extent, natural, but they are influenced by the arbitrary laws of custom and convenience. It is thus that the class of diseases grouped under the general term of Insanity has been framed to exclude the delirium of fever, of cerebritis, and other diseases of an acute form. A strictly natural nosology would, doubtless, include under the term, all diseases of the cerebrum proper accompanied by aberrations in the mental functions; but inasmuch as such aberrations are a frequent concomitant of a large proportion of cerebral diseases to which man is subject, it becomes necessary to restrict the term Insanity to those forms of disease in which alterations of the mental functions are not only a constant but a prominent symptom. While, however, the convenience of this restriction is acknowledged, it would, in an investigation of the pathology of Insanity, be most unwise to overlook those occasions of mental disturbance which take place in the course of other diseases. We often go abroad to gain accurate information and opinions on that which is taking place at home; and the special student of Insanity will do well to study the causes of delirious thought and perverted feeling in all classes of bodily disorder where they are observable. If he studies Insanity alone, he will be apt to fall into the common error of attributing its causation to some single pathological state, and his views will be as wrong as they are narrow. But if he studies perverted feeling as occasioned by gouty or hepatic disease, or loss of intellectual power and fatal coma occasioned by suppression of the urine and the delirium of fevers, he will be led to appreciate the full extent of blood change in the production of purely mental affections. In the delirium of cerebritis he will see a form of Insanity undoubtedly produced by inflammation; and in delirium tremens he will see another form of Insanity, as undoubtedly produced by nervous exhaustion. He will thus be enabled to reject exclusive theories of Insanity, and be prepared to admit the truth of the broad principle—that Insanity may be occasioned by any and every pathological state which is capable of taking place within the substance of the brain.

The pathological changes which are capable of taking place therein are to be learnt from a study of the causes and symptoms of mental disease, from the effects of remedies, and from

the *post-mortem* appearances. Some preliminary foundation for this study may be provided by a consideration of the influences to which the organ of mind is obnoxious, tending to interrupt or defeat its functions. Sane mind being the result of the normal and physiological action of the brain, unsound mind is the inevitable consequence of its abnormal or pathological action. To what pathological actions, then, is it liable? As an organ abundantly supplied with blood vessels, it is obviously liable to all abnormal conditions which irregularities in the quality or quantity of the blood, and the relation thereof to its tissue, can occasion; it is liable to anæmia and to hyperæmia both passive and active, and to the latter accompanied by organisable and unorganisable exudates. It is also more readily acted upon by various chemical changes in the blood than any other organ. Excess of carbon or defect of oxygen tells first upon it; and many substances in the blood which affect other organs little, or not at all, affect this noblest of the organs with intense force. All diseases, therefore, which depend upon the movement or quantity of the blood, and many of those which depend upon its quality, are the fruitful source of abnormal cerebral conditions. The brain is also liable to a species of disturbance, apparently quite unconnected with the quality, quantity, or movement of the blood, a species of disturbance to which other organs are liable only in a modified and unimportant degree. We allude to the disturbance caused by sympathy with injuries of, or noxious influences applied to, peripheral portions of the nervous system. Moreover, the brain is liable to conditions of exhaustion to a far greater extent than any other organ. Other organs, when overtasked in the performance of their functions, either refuse to discharge them, or gradually gain such increase of power, that they are at last enabled to accomplish the task imposed. Overtasking the stomach destroys appetite, and the task is no longer imposed. Overworking the muscular system does not break down that system itself, but the nervous system, with which it is so nearly connected; or if hard work is within the limits of health, the muscles gradually develop by exercise, and eventually overcome the difficulty. The overtasked lungs throw part of their burden upon the vicarious action of the liver, and the overtasked liver is relieved by the kidneys. But the overwrought brain finds no help-mate in the economy of the organism; it must bear its burden alone, and suffer or succumb

according to the disproportion between its task and its energies. Exertion of the brain, if kept within due limits, is followed by sleep, a state of repose peculiar to itself; but, carried beyond these limits, the excitement of its functions, while it produces rapid exhaustion of power, also renders the organ incapable of such repose and renovation. Overwork produces exhaustion accompanied by excitement, which continues the overwork and accelerates the exhaustion. Thus the degeneration of tissue goes on in the organ in a ratio of rapid increase, and organic decay is occasioned,—sometimes quickly fatal, but more frequently resulting in permanent atrophy of the organ, with perversion and degradation of its functions.

That the disease commonly known as insanity does not result from inflammation of the brain, must be accepted only as a nosological but not as a real truth, since cerebritis and meningo-cerebritis are undoubtedly accompanied by profound disturbance of the cerebral functions so long as they last. But many authors have asserted that mental disease, going on from week to week and month to month, is occasioned by inflammatory action of a certain kind in the brain substance. Broussais, who was the great advocate of this theory, was compelled by the absence of inflammatory products in the brains of persons dying insane, to acknowledge that this action was of a *sub*-inflammatory nature. Guislain, however, says, that in some rare cases he has observed the arachnoid to be actively inflamed, presenting the appearance of the inflamed conjunctiva; and some recent English writers on the same subject, believing that the injected membranes become pale by post-mortem change, have expressed their conviction that such appearances might be observed if the brain were examined immediately after death. We have never observed any appearances, either in the meninges or the convolutions of the brain of a person dying insane, which we could attribute to the existence of recent acute inflammation. We have, however, in numerous instances, observed unequivocal marks of inflammation not of a recent date.

Moreover, the history of the causation of many cases of insanity leads to the conviction, that although inflammation may not be the actual condition of insanity, it is not unfrequently its cause. In such instances the course of events is as follows:—A man receives a blow on the head, or some other cause of inflammatory action. In a recent case, which has been under our care, the exciting cause was a stroke of lightning. Imme-

diately after the injury, pain and febrile excitement indicate the existence of inflammatory action. If this inflammation were to extend, the patient's life would be in the utmost danger. But in the instances under consideration, either the slightness of the injury, or rest and treatment, localises the inflammation, and its symptoms soon disappear. After the lapse of a period which varies from ten days to three or four weeks, the patient again becomes sleepless, irritable, suspicious, and fretful, easily excited to anger, always in motion; and soon delusions appear and an acute attack of insanity declares itself. Such cases are not unfrequently fatal: they are accompanied by great violence and long-continued insomnolence, and are apt to terminate in an exhaustion of the powers of life, expressed by the sudden or gradual failure of the heart's action. On examination after death, appearances of local inflammation in the meninges and convolutions are observable. We cannot think that the symptoms of insanity are in such cases occasioned by the inflammation. It is most probable that the inflammation is not the condition of insanity, but is the exciting cause of a secondary pathological state upon which the symptoms of insanity immediately depend; just as the symptoms of abscess in the liver may be caused, but not conditioned, by ulcerations in the intestines. What is the actual state of an organ, of which the functions are disturbed by the presence of inflammatory action of a small portion thereof, it is not easy to determine. In the loose employment of terms, which continues to be one of the greatest obstacles to the advancement of exact medical knowledge, the condition of such an organ would be confidently stated to be one of irritation. But irritation properly defines a cause, and not a state. Irritability is a state of organic structures rendering them liable to be acted upon by irritating causes, that is, by irritation; and passing, when so acted upon, into a second state, that of excitement. When the cause of organic excitement is normal, and the organism is sound, the phenomena are regular, and bear a certain definite, or, so to say, symmetrical proportion to each other. But when the causes of excitement are abnormal, its phenomena are irregular and disproportioned. The excitement of an irritable nervous system, occasioned by a wound or other lesion, manifests itself in spasmodic action of various kinds; while healthy excitement, occasioned by the natural stimuli, results in a regular activity of the muscular and other organs of the body. Now the presence

of a small portion of brain, recently inflamed, acts as an irritant upon the remainder of the organ, producing therein abnormal excitement, which manifests itself in an irregular and disproportionate activity of its functions, that is, in symptoms of Insanity.

Such is our view of the influence of true inflammation in the production of mental disease. We must, however, guard ourselves from being understood to offer the term "irregular excitement of the cerebral functions," as anything more than a verbal formula for the expression of a series of phenomena with several links of which we are little or not at all acquainted. A small ulcer in the mucous membrane of the stomach sometimes deranges all the functions of the viscus; a blow on the head causes vomiting; in either instance we know not how; but we refer the fact to others of a similar nature, tabulated under the terms of sympathy or irritation; that is, we provisionally formulate our knowledge. In doing so, we act in accordance with unexceptional methods of philosophising, if we fully and constantly estimate verbal formulas for what they are, and do not permit ourselves to recognise in them the undiscovered truths which they provisionally represent. It is probable that the state of brain occasioned by the irritation of an inflamed portion, is that of active, but unequal congestion. This probability is grounded upon the well-known fact observable in those parts of the body which present themselves to the sight (a hand or an eye for instance), that inflammation of a small portion is accompanied by active congestion of the remainder. The inflamed part disturbs, in some way or other, the normal balance between the contraction of the capillaries and the pressure of the blood. It has been hypothetically assumed that the manner in which this is effected, is by the abstraction of the nerve power of the capillaries; or, to speak with a less amount of hypothetic guessing, and to omit the influence of unascertained *power*, it will be sufficient to say that every local inflammation not only destroys for a time the contractility of the capillaries in the part affected, but that it also greatly diminishes their contractility in surrounding tissues. And this brings us to the consideration of the influence of congestion of the brain as a cause and condition of Insanity; general inflammation of the brain being neither—first, because the undoubted appearances of general inflammation are not observed in persons dying insane; and, secondly, because the consequences of general cerebral inflam-

mation are inconsistent with the phenomena of a chronic disease. Such a state, if not speedily removed by active measures, is fatal in a few hours or days. But it is otherwise with general congestion of the cerebral convolutions; this condition being consistent with the phenomena of a chronic disease, and actually and frequently observable in the bodies of persons dying insane. The consideration, therefore, of its causation, its nature, and phenomena, is of the highest importance. We shall not attempt to distinguish congestion of the meninges from that of the convolutions themselves; for although the congestion of the former may sometimes be very obvious, while that of the latter is very doubtful, their connexion with that membrane which in mental diseases is most worthy of consideration, namely, the pia-mater, is of so close and intimate a nature that it is plainly impossible for it to be congested without a corresponding condition existing in the capillaries of the grey matter of the convolutions.

Preliminary to the consideration of cerebral congestion as a state of disease, it will be worth while to review the states of congestion which do not actually partake of that character. Systematic writers have distinguished various states of the capillaries in which they contain more blood than natural, under the terms of determination of blood, plethora, active and passive congestion or hyperæmia, &c. These all appear to be varieties of the same condition, namely, enlargement of the capillaries, with retarded but not obstructed motion of blood through them; and the slighter degrees of this condition are consistent with, and, indeed, are dependent upon, the healthy activity of the organs. Dr Watson says, "Local plethora may be predicated of a part which contains more than its share of blood." The mucous membrane of the stomach contains more than its share of blood during the process of digestion, and is therefore plethoric. If the organ is weak, and if the stimulus of food is applied too frequently to it, the transient condition of healthy plethora passes into that of morbid congestion, and pain, spasm, and morbid symptoms result. The exact counterpart of this takes place in the brain; the changes which result from the active exercise of its functions attract to its capillaries a greater share of blood, and constitute a transient and healthy state of local plethora. But, if the brain is weakly organised, and if the stimulus of the work is continued beyond due limits, the state of plethora is prolonged and augmented, and the first symptoms of morbid

congestion display themselves. There are few students who are not practically conversant with the slighter symptoms of cerebral congestion. Absorbed in some intellectual pursuit, the student's head becomes hot and painful, and his brain even feels too large for his skull. With exhausted powers of thought and attention, he retires at a late hour, as he hopes, to rest, but he finds that he cannot sleep; or if he does sleep, his repose is unrefreshing, and disturbed by dreams. An hour's freedom from thought, before retiring to bed, would have enabled the partly congested brain to recover itself, and this would have been aided by taking a glass or two of wine, which would have tended to relieve the distended capillaries. It was long ago pointed out by Dr Billing, that an alcoholic stimulant taken at bed-time by a man with an exhausted and by one with an unexhausted nervous system, will produce contrary effects: it helps to relieve the congestion of an exhausted brain; in the unexhausted brain, on the other hand, it tends to produce congestion, feverishness, and sleeplessness; just as diluted tincture of capsicum relieves the congestion of a frog's foot, but applied to the capillaries in their normal state, it causes them to congest.

The condition of the cerebral capillaries during sleep is yet much disputed. The production of drowsiness succeeded by coma when nervous congestion of the cerebral vessels is produced by intense cold, is a strong argument in favour of the view that sleep is accompanied by venous congestion, although it is quite probable that the arterial flow may at the same time be diminished. During sleep, however, the cerebral capillaries are not, at least, in that state of active congestion which is the physiological condition of the capillaries of organs in a state of high functional excitement. We have elsewhere propounded and maintained the theory, that the brain-cells derive nutritive renovation from the blood, principally or entirely during sleep. It would seem probable that in the physiological state, the brain is liable to determination of blood from two causes, or rather for two purposes; during waking, for the purposes of functional activity; and during sleep, for the purposes of nutritive repair; and there are symptoms which indicate the existence of a congestive state of the brain after sleep. If its duration has only been sufficiently long to repair the exhausted energies of the organ, and if the individual be in a state of sound health, the symptoms of congestion on waking are imperceptible. But in

heavy sleepers, and after sleep prolonged beyond the necessities of the body, the period of waking presents some curious phenomena of congestion. During this state, dreams are common, and the individual is conscious that he is dreaming. Hallucinations present themselves to the senses of sight and hearing, which the half dreamer recognises as such. There is, moreover, a sense of weight, tension, and throbbing in the head, which is not always got rid of until some time after waking is complete. This state has been referred to by the alienists of France, as presenting a very close resemblance to the mental phenomena of Insanity. It wants, however, the element of emotional disturbance, for dreams of this kind are mostly sensorial. Doubtless, this and all other states in which the mental faculties are exercised in a partial and irregular manner, have a certain similitude to the phenomena of mental disease; but it seems unwise to push the comparison too far, as the French alienists appear to have done, in declaring the state of dreaming to be identical with that of hallucination from Insanity.

The phenomena of intoxication present us with another example of impairment and irregularity of the mental functions, probably referable to cerebral congestion. This example, however, is liable to the objection that the phenomena result from a poison in the blood, acting upon the brain. This objection does not appear to be well founded, for the following reasons:—Persons habituated to the use of alcohol can take large quantities of it without experiencing marked effects upon the mental faculties. This would not be the case if it acted directly as a poison upon the brain-substance; for it is observed that substances which do act in such a manner, do not lose their power over the mental faculties by habitual use. The most habituated opium-eater dreams dreams and sees visions under the influence of his drug, even to a greater degree than a beginner. Moreover, many narcotic substances, which produce very remarkable effects upon the mental faculties, do so without any appearance of cerebral congestion. Stramonium, belladonna, and aconite, may especially be mentioned as examples of this fact. These substances, which act without causing congestion, always produce their effects when they are taken; but the effects of alcohol are most uncertain. A quantity, which in some men will produce little or no alteration of mental activity, will in others occasion the greatest and most irregular excitement of thought and feeling. And this difference exists not only between men

who are habituated to its use and those who are not, but among those of sober and temperate habits. Moreover, in certain states of the system, as in typhus, the largest quantities of alcohol may be taken without producing one symptom of intoxication. In such states its whole force is expended as a food and in sustaining the flagging energies of the nervous system, and if it tends to cause cerebral congestion it is pernicious.

The phenomena of alcoholic intoxication, therefore, we hold to be in great part due to the cerebral congestion which it occasions; and these phenomena appear to us to present a far closer resemblance to those of Insanity than any of the states of dreaming, or of partial and irregular sleep. The phenomena of intoxication are unfortunately familiar to every one; they vary greatly, however, according to the nervous organisation of the drunkard, and according to the form and vehicle in which the alcohol has been imbibed. The sottish, swinish drunkenness of an English ploughman, with his stomach full of sour beer, is quite a different thing from the mad inebriation of an excitable Frenchman on fire with eau de vie. In the former, drunkenness consists more in partial palsy of the muscles and oppression of the brain, than in anything deserving the name of excitement. In the latter, exalted and perverted sensation, flighty imagination, blind passion giving way to maudlin sentiment, a general and violent stimulation of the mental faculties, are the obvious characteristics of the condition; and they so closely resemble the phenomena of Insanity, that while they last they may be said to be almost identical therewith.

If, therefore, alcoholic intoxication is the result of active cerebral congestion, and if its phenomena so closely resemble those of Insanity, that, considered apart from their cause and the condition of the stomach, they frequently cannot be distinguished therefrom, a strong probability is established, on the principle of referring like phenomena to like cause, that one pathological cause of Insanity is that of active cerebral congestion. Such congestion is, doubtless, not uniform throughout the organ. "In the normal, nutritive conditions, a certain uniformity is found to exist; that is, a uniform distribution of the nutritive material, whence both the central and the peripheral organs are developed." (Wedl.) But, in abnormal conditions of the circulation, this uniformity of distribution no longer exists; and, in anæmic or hyperæmic conditions, the functions

of a compound organ are thrown into a state of unequal excitement or depression. In simple congestion of the organs, "Natural contractility and sensibility are lowered; but pain, spasm, and morbid sympathies are often excited, although in a manner much less distinct and constant than in inflammation or determination of blood. Thus, congestion of the liver is sometimes accompanied by pain or tenderness; sometimes it is without either. Congestion of the stomach sometimes causes gastralgia, nausea, and vomiting, with altered appetite; but these symptoms are often absent when the amount of disease of the liver, or the heart, and the subsequent occurrence of hæmatemesis, leave no doubt that the stomach was congested. The same remark is applicable to the kidneys, the uterus, the brain and other organs." (Williams' 'Principles of Medicine.') Such is the account given by a distinguished and acute pathologist of the irregularity of function produced by congestion; but the analogy from an organ whose function is simple, to one whose function is so complex as that of the brain, can afford but a slight insight into the effect of similar pathological conditions in the two instances. Of the abdominal and thoracic organs, the stomach is that whose functions are the least simple. Its muscular movements are as ingeniously adapted to a purpose as those of the heart. In addition to this, the functions of secretion and absorption discharged by its several sets of glands, add to the complexity of its duties. Congestion, as we have seen, causes irregular excitement or depression of all its functions, nervous, muscular, and secretive; yet, compared with the brain, how few and simple are its duties. The functions of the organ of the mind are more complex than those of all the other parts of the body put together; nor are they less distinct in themselves and inter-distinct in their action. Consequently, any pathological state which destroys their equilibrium, producing irregular depression of some functions, with irregular excitement of others, must cause a wider and more intricate range of anomalies than is observable in a similar state of the more simple organs. The application of these remarks is not alone restricted to states of cerebral congestion; they refer equally to all pathological states of the organ dependent upon the condition of the blood-vessels and their contents in relation to the nutritive plasma and the cells. As, in the body at large, it only happens in a state of perfect health that the nutritive fluid is distributed in due and uniform proportions to the several

parts, so it is in that microcosm of the body, the brain. In a state of perfect health the nutritive fluid is distributed in due proportion to each of its several parts, producing an uniform and well balanced excitement of function; but in abnormal states of the circulation, this proportioned excitement of function disappears, and is replaced by irregular excitement. Some functions become torpid and oppressed, while others are excited into preternatural activity; and this state affords the basis of Insanity.

We are too little acquainted with the physiology of the several parts of the cerebral convolutions to form an opinion as to the existence of that vicarious action which we observe in abnormal states of the other organs. It may be that no such action exists, and that the part of the brain devoted to the perception of sensation discharges no other function in any state of disease; and the same of those parts devoted to the various functions of intelligence and emotion. If this be so, the whole phenomena of Insanity are the more capable of elucidation from the irregular depression and excitement of the various parts of the brain devoted to the various functions of mind.

The difficulty which this theory has to overcome is that of so-called perverted function, in which a mental state neither appears to be explicable by excitement nor by depression. But with regard to the sensational and intellectual activities, this perversion of function is merely apparent; and even the phenomena of perverted emotion, as we shall endeavour to show in another place, are capable of being explained in a manner consistent with the theory, that excitement and depression are the only abnormal states to which the separate functions of mind are liable.

It may be objected that the pathological relations existing between the vessels and the cerebral cells, which are imperfectly represented by the terms *hyperæmia, anæmia,* &c., are not usually, and indeed very rarely, of that partial character which the theory of unequal excitement would seem to require. When opportunities are afforded for the examination of brains in which these conditions are observable, it is found that the convolutions are not in a hyperæmic or an anæmic state in parts only, and that in other parts they are in a healthy condition, or in a normal state. It is, on the contrary, found that the pathological appearances afforded in congestion of the pia mater

and brain, or in a pale and anæmic brain, to a certain extent are general and uniform, especially over the upper surface of the cerebrum, the convolutions at the base and the cerebellum being often remarkably exempt; and it may not appear easy to reconcile this general uniformity of appearance with the theory of loss of uniformity in function. We can, however, gain instruction on this point also from analogy. It is found that the pathological conditions affecting the whole body do not occasion uniform excitement or depression. The instance least liable to objection is that of general anæmia arising from loss of blood. In this condition, all the organs are found more or less exsanguine; and it might, *à priori*, be supposed that the consequence of this state would be a general failure or debility of the bodily functions. But, in reality, this is found to be by no means the case. The greatest irregularity prevails from the excitement of some functions, and the depression of others. It is reasonable to suppose that the same irregularity of function may be occasioned by the same apparent generality of pathological condition in the brain. Of the congeries of organs that subserve to animal life, some are more disposed than others, either from congenital or acquired tendencies, to take on diseased action. Of general pathological conditions of various kinds, some are disposed preferentially to affect one organ, others to affect other organs. Similar laws may hold good in that congeries of organs which subserve to mental life; and hence the explanation of the fact that pathological states, which, to all appearance, implicate impartially the whole extent of the cerebral convolutions, result in comparative excitement of some functions, and depression of others. In brains organised with exact similarity, like pathological changes would, doubtless, occasion like effects. The effects would indeed differ from each other, in consequence of the selection which pathological agents invariably exercise in their action upon the organism. For instance, urea in the blood would invariably affect the temper; stramonium, or chloroform, would as surely affect sensorial activity; and other pathological states of the nutrient fluid would exercise a similar preferential choice. The pathological condition being given, the results would always be uniform, if the congeries of mental organs existed in a uniform proportion of size, power, and activity. But, in fact, this is not so. No one brain is like any other brain. Either by the force of inheritance from parent organisms,

or through the influence of education or other modifying circumstances, every mind possesses such a peculiarity and individuality in the relative susceptibility and strength of its organs, that the same disturbing influence never produces in two brains exactly the same pathological effects. Thus, that transitory pathological state, occasioned by the introduction of alcohol into the blood, causes in one man excitement of angry feeling, in another that of jovial and benevolent sentiment, in another maudlin self-depreciation, in another intellectual vigour and enjoyment. Thus, it is obvious that pathological states, whose symptoms during life, and appearances after death, seem to mark them as states of the whole cerebrum, are capable of being the cause of the most diverse forms of excitement or depression in the congeries of organs whose union builds the brain, and whose action constitutes mind.

Of late years, the application of a stricter logic to the appearances in the minute blood-vessels, recognised by a diligent use of the microscope, and to the phenomena of nutrition and decay, have occasioned great modifications in the scientific meaning of the terms congestion, inflammation, atrophy, &c. A part is not now acknowledged to be necessarily inflamed in which there is pain, heat, redness, and swelling. One pathologist insists that *stasis* of blood in the capillaries is necessary to the condition; another, that the true mark of the inflammatory action is the formation of fibrine exudates; and Virchow goes so far as to call all disturbances of nutrition, and even all atrophies and degenerations, by the term inflammation.

That condition of the small vessels of the brain which has in these pages been designated hyperæmia or congestion, doubtless gives rise to occasional *stasis*, and still more certainly is the occasion of new exudates. That these exudates do not tend to consolidation, or to the formation of fibres or of pus-cells, may perhaps be allowed to distinguish them from those which take place in the so-called inflammations. And our opinion that Insanity is frequently conditioned by congestion, and very rarely by cerebral inflammation, may be expressed with greater accuracy in the terms, that Insanity is very frequently conditioned by disturbances of the cerebral circulation, which cause unorganisable exudates, and interrupt the normal endosmotic motions, but which do not occasion the fibrinous and purulent exudations which are found in cerebritis.

The real importance of disturbances in the circulation depends

upon their being the cause of disturbance in the nutrition of organs. The changes which take place in the vessels accelerate, impede, or interrupt the nutrient supply of the cells; and questions relating to the *stasis* of the blood, to the formation or increase of the white corpuscles, to the dilatation or contraction of the smaller arteries or veins, the permanent size of the capillaries, the disappearance of Valentine's quiescent stratum, and other questions and facts relating to changes in the small blood-vessels in congestion and inflammation, derive their real importance from their bearing upon the question of interrupted cell-nutrition. In the words of Wedl, "If we desire to resolve the life of the organism, as its were, into its elements, we must endeavour to acquire a more intimate acquaintance with the vital properties of its elementary organs—the cells; we must endeavour to ascertain how the first appearance of the cells in the homogeneous *blastema,* is evidenced—how their multiplication by division proceeds—what metamorphoses they undergo—what are the conditions presented in the cells in their further existence—whether they remain stationary in their external habit or not—what stage of development they reach—whether motile phenomena occur in them—or, in other words, we must strive to comprehend the cells as something living, in their nutrition, propagation, and movement. This vital and physiological survey must also be carried on in a pathologico-histological point of view, so that we must not be content to confine our regard merely to what is presented in the dead subject."

The conditions of the minute vessels in a state of hyperæmia will, however, explain one important fact on which we have commented above—namely, the depression of function in one part of a compound organ, with the excitement of function in another part, when the whole organ presents the appearance of uniform congestion. It appears, from the experiments of Bidder, that the notion, hitherto common, of the dilatation and contraction of the capillaries is erroneous. The small arteries and veins which are distinguishable from the capillaries by nuclei, and which also possess a layer of muscular fibres which is wanting in the capillaries, contract under the first stimulus of an irritation, and subsequently dilate. When dilated they supply a larger stream of blood to the capillaries. From hence arises a large quantity of nutritive plasma, and greater functional activity. But, in other parts of the same organ, a different state of the small vessels may exist; the veins and

arteries may be dilated and contracted in a varicose manner, and the flow of blood through them be less than in their normal condition. Or it may be interrupted by adherence of blood-corpuscles to the walls, and to those of the capillaries, indicating the commencement of stasis. Under such circumstances, the nutritive plasma, exuding for the renovation of the cells, will be greatly diminished, and functional activity will be depressed. This is one reason why functional uniformity in a compound organ suffers from congestion. Another cause may arise from the nutritive exudation, which take place in excess in one part of the organ, occasioning a species of hypertrophy in that part, and thus giving rise to pressure on other parts of the organ, which pressure prevents transudation, and impedes functional action.

But in addition to this explanation of loss of uniformity of function from the inequalities of pathological changes, another cause of equal potency is to be found in the organisation of the compound organ itself. The congeries of organs constituting the brain, like the congeries of organs which constitute the body is rarely devoid of one or more organs, which differ from the remainder either in their size and power, or in their weakness and in their aptitude to incur morbid change. As in the bodies of different men, disturbing influences operate preferentially upon the pulmonary or the intestinal mucous membrane, or upon the heart, or upon the liver—so, in other men, any cause disturbing the physiological conditions of the brain may operate almost exclusively upon some one or other of the emotions or propensities. This power of selection may, in some instances, be attributed to the mere size and preponderating force of the organ. Thus, a man in whom the exercise of intellect, and the subjugation of passion have been the result of life-long effort, will, under the influence of any excitement, experience exaggeration of the intellectual function alone; or a man who has habitually submitted himself to the domination of benevolent or malevolent emotion, will, under excitement, have the benevolent or the malevolent emotions exclusively exaggerated. In the natural and healthy state of the organs, the preponderating force of any one of them may be overlooked; but when any morbid excitement occurs, the preponderating force of the dominant organ makes itself unmistakably felt. In De Quincey, the excitement of opium pictured before the imagination a gorgeous array of poetic fancies; in Coleridge, it resolved itself

into the more intellectual type of metaphysical subtilties; in the savage Malay it produces revolting acts of headlong fury and bloodshed. The stimulus of alcohol is the occasion, among men of high intellectual organisation, of "the feast of reason and the flow of soul;" among the pariahs of civilisation, it is the cause of base passion and brutal excess. These facts give a clue to circumstances which not unfrequently present themselves in the history of mental disease, in which the natural bent of the character and disposition is observed, not to be perverted, but only to be exaggerated beyond the boundaries of sane mind, by the action of morbid changes. A lady, whose character has always been distinguished for conscientiousness, and whose religious education has been of a sombre kind, has an attack of smallpox, during which symptoms of acute delirium and cerebral congestion show themselves. After recovery from this zymotic disease, the natural bent of the mental disposition is found to be greatly exaggerated. The irritability of conscience has become an actual disease, destroying the happiness of the individual, and rendering her incompetent to discharge any of the duties of life. A distinguished admiral, who has always been remarkable for pride and liability to passionate anger, is subjected to severe chagrin by a supposed neglect of Government; he suffers from a distinct crisis of cerebral excitement, with loss of sleep and general feverishness; and, for the remainder of his life, his pride and passion are exaggerated to the dimensions of undoubted Insanity.

As in one man a cold always flies to the bowels, and in another to the lungs, so the causes of mental disease sometimes appear to strike exclusively upon one or the other organ of mind. In the above instances, which we have given from our own observation, this so occurred, because the organ affected was the most liable to excitement, from its predominance in size and vigour. But the vigour of any bodily organ renders it less rather than more exposed to morbid influences. The cold, or the fever, or the poison flies to the weak organ rather than to the strong one. The cause of this difference between the glandular organs of the body and the cerebral organs appears to lie in this, that in the bodily organs healthy excitability has strict limits, and the amount of functional activity within the limits of heath is also strictly defined. But in the cerebral organ it is not so; not only does power increase with action, but excitability also increases; use and habit render the intelligence, or any of the emotions, not only

more vigorous in action, but more ready to act. In this respect some parts of the muscular system bear a close analogy to the cerebral.

There is, however, another class of circumstances opposite to the above, in which causes of morbid change affect a particular mental organ, on account of its weakness and not on account of its strength. There appears to be a difference, in this respect, between the organs which subserve the emotional functions and those which subserve the intellectual. In the former, the size and vigour of an organ render it more obnoxious to be affected by morbid influences. On the other hand, in that part of the cerebrum devoted to the intellectual activities, it is the weakness and imperfection of the organs which render them peculiarly liable to take on diseased action.

That Insanity is frequently conditioned by a preternatural fulness of the cerebral vessels, which interferes with the uniform and healthy interchange of nutritive plasma, passing from the vessels to the cells, and of the fluid cell-contents in a state of involution or degenerative metamorphosis, passing from the cells to the vessels—a fulness unaccompanied by exudation tending to become organized, that is, accompanied by congestion, and not by inflammation—seems to be proved—

First. By the exciting causes of many cases of Insanity, which causes evidently tend to hyperæmia of the brain, and which in their more powerful operation frequently give rise to inflammation itself. Injuries to the brain, from blows, falls, or exposure to heat, if of a certain intensity, produce inflammation; if they be of a less intensity, in predisposed persons, they give rise to Insanity. Repeated congestions of the brain from alcoholic drinks have a like effect. And, finally, that frequent and unquestionable cause of congestion in all organs of the body, overwork of the organ itself, is a well-recognised and efficient cause of mental disease.

Secondly. The symptoms attending many cases of Insanity are those of cerebral congestion. The forehead and vertex are hot, the face flushed, the conjunctiva injected, the carotid and temporal arteries beat strongly. Sometimes there is pain in the head; more commonly there is a sensation of weight and dulness. Moreover, the general system often suffers from that imperfect and undeveloped state of pyrexia which accompanies active congestion of any important organ.

Thirdly. Remedies which are efficient in the removal of con-

gestion, are most beneficial in the early stages of many cases of Insanity. Cold applied to the scalp by means of the ice-cap, cold lotions, or irrigations of cold water—leeches to the temples, and cupping to the nape of the neck—derivation to the intestinal canal by purgative medicines, or to the skin by warm baths—produce the most marked benefit in the early stages of Mania, arising from the causes, and accompanied by, the symptoms above stated.

Fourthly. When opportunities occur to ascertain the post-mortem appearances of such cases before they have become chronic, and have passed into the conditions of atrophic decay, the appearances are those of congestion of the pia mater, with deepened colour of the convolutions; sometimes, but not always, accompanied by punctiform injection, or general pinkiness of the white substance of the cerebrum.

We are fully aware that an objection may be raised to the congestive theory of the pathology of Insanity, from the fact that certain diseases of the heart and lungs, and tumours pressing upon the jugular veins, which appear to be efficient causes of cerebral congestion, may, and frequently do, exist without symptoms of mental disease. The objection must be admitted for what it is worth. It is sufficient to stimulate inquiry into the essential differences of congestions variously caused; but it does not appear to be sufficient to set aside the arguments above adduced in favour of the theory. The brain of a person not predisposed to Insanity may be able to accommodate itself to congestion slowly produced by the operation of these causes. Such congestions are likely to affect the whole of the cerebral organ equally; and may, therefore, be wanting in that loss of uniformity which constitutes so remarkable a feature in mental disease. Doubtless there are many persons who suffer from extreme degrees of emphysema of the lungs, or of diseases of the heart, who display no symptoms of mental disorder. But it is not certain that, in all instances, the congestion which empurples the face extends itself to the organ of mind. And on the other hand, there are cases sufficiently numerous, in which the impeded return of the blood from the head, occasioned by thoracic disease, does appear to produce mental disorder. We have seen several cases in which asthma has appeared to have this effect; and Mr Ley, of the Oxford Asylum, has observed many cases in which pulmonary emphysema has been the remote cause of Insanity. The probable

reason of apparent anomalies in this matter would seem to be, that, in some cases, congestion has been slow in its production, and uniform in its extent and influence. In such cases the mental functions are debilitated, but not deranged. We have never seen an instance of extensive pulmonary emphysema, or of any other disease which occasioned marked and persistent congestion of the head and face, in which there was not some debility of mental function. That such debility is not at first apparent, receives a probable explanation from the fact, that congestions arising from obstructions to the return of the venous blood display themselves in the vessels of the areolar tissue and of the skin, in a more marked degree, and at an earlier date, than in the vessels of large glands and other important organs. Thus, venous obstructions give rise to œdema of the cellular tissue of the legs and abdominal dependencies, before they interfere greatly with the functions of the liver, the kidneys, or the intestinal canal; and the same rule appears to hold good in congestion from venous obstruction in the head. The active discharge of function in large vascular and energetic organs resists the influence of such causes of congestion long after the vessels of the cellular tissue, whose functional activity is much lower in degree, have been thrown into a pathological condition thereby. The greater the functional activity of a healthy organ, the more energetic its resistance to the causes of disease.

Anæmia.—That numerous instances of Insanity are conditioned by the state of the cerebral vessels generally but imperfectly expressed by the term anæmia, may be proved by an array of arguments similar to those which we have adduced to prove the influence of congestion.

First.—The efficient cause of numerous cases of Insanity is actual loss of blood, or a deficiency in its nutritive powers, occasioned by insufficiency of food, or by impediments to the conversion of food into healthy blood; or by the numerous anti-hygienic influences which limit the quantity or weaken the nutritive quality of the blood in the cerebral vessels. Anæmia is a vascular condition with which the microscopist is far less intimately acquainted than that of congestion. It is not much that he can learn respecting it from the foot of the frog, the wing of the bat, the tail of the tadpole, or the mesentery of a young rabbit. After death the whole mass of the organ is found to be paler than usual, and that is about all with which actual observation has hitherto been able to make us acquainted. But even could

it with ease be demonstrated upon the field of the microscope, that cerebral vessels in an anæmic condition have any distinctive characteristics, it is improbable that such observations would explain more than the simple fact, which we can understand as well without, namely, that a dilute state of the blood is as great a hindrance to functional vigour as that congestive commencement of *stasis*, which deranges endosmic action by an opposite condition of the capillaries. Certain physiological actions being necessary for the nutrition and the healthy functional activity of the brain-cell, any impediment to these actions interrupts this activity. Hence the markworthy fact, that the essential symptoms occasioned by congestion and anæmia greatly resemble each other. The physical symptoms of fainting from loss of blood, and of coma from suffocation, are sufficiently distinct; but the psychical symptoms resemble each other very obviously. In both there are the same affections of the senses, the same sparks and flashes before the eyes, the same tinnitus aurium, the same thick-coming fancies, followed by loss of consciousness, the same painful sensations attending recovery. The slighter but more persistent degrees of hyperæmia and anæmia are attended by symptoms readily distinguishable from each other, both by physical and psychical symptoms. In hyperæmia, with hot head and fulness of the cerebral vessels, the cerebral functions are discharged with slowness and difficulty. In anæmia, with pale face, cool head, and weak pulse, the cerebral organs are in a state of irritable weakness, easily excited to action, the action, however, being feeble and irregular. In fact, the mental state in anæmia differs from that which is observable in hyperæmia, much in the same manner as the muscular system in an exsanguinated person differs from the muscular system in one morbidly plethoric. In the former it is quick, irritable, and tending to convulsive irregularities; in the latter it is less subject to be thrown into violent action or convulsion, and its motions are slow and oppressed. This distinction, however, is by no means constant. The state of anæmia, carried beyond a certain point, destroys the functional excitability and activity of an organ. Moreover, when an organ has made decided progress in the march of retrogressive change, it loses its excitability. Thus it happens that anæmia of the brain, combined with atrophic decay, is accompanied by loss of functional activity, and is a frequent cause of Dementia; while, on the other hand, the rapid nutrition of some portions of the brain, occasioned by a moderate

degree of active hyperæmia, often augments functional susceptibility and power.

We must in this place guard ourselves from a possible misapprehension which may arise from the stress which we lay upon the quantity and movement of the blood in the cerebral vessels. We are so far from regarding these as the ultimate causes of Insanity, that we look upon them merely as one link in the series of proximate causes; and that link at least one remove from the termination of the chain. Between the ultimate condition upon which mental function, either normal or abnormal, depends, and the condition of the blood in the cerebral vessels, there must intervene the condition of the cell apparatus. To this may perhaps also be added, the condition of the capillary walls. But these ultimate factors of mind are only now being slowly and laboriously explored. The state of the blood in the minute vessels is the circumstance lying the nearest to that ultimate molecular change resulting in functional activity, with which until recently our powers of observation have been able to make us to some extent acquainted. We must trace the path so long as it is visible, and we must carefully take its bearings at the point of its disappearance. The direction of its last visible trace is often of more value to guide us onwards than the whole length of its previous course. But the importance of any link in the series of causation must not be underestimated because it is placed at some removes from the end of the chain. The aim and end of science is to predict. If our knowledge were complete, we should be able to predict with certainty, from the conditions of any one part in the path of causation, the conditions of all subsequent parts and of the end. If our knowledge were complete of the cerebral organisation, we should, from any morbid state of the cerebral capillaries and their contents, be able to predict the anomalies of mental function which would result therefrom. To this end, it is true, we should require to possess a knowledge of the state of the cells, upon which morbid conditions of the circulation have to act. And herein lies the great difficulty of pathological science, that these minute but all-important constituents of the organisation have refused hitherto to yield their secrets. All that we surely know of them is, the place where they lie in the path of causation, namely, between the network of capillaries and the phenomena of function.

Rokitansky has expressed his opinion that the conditions of

the nerve-mass are independent of those of the nutrient supply, and that the state of the capillaries and their contents is often, if not generally, a phenomenon consecutive to and dependent upon the state of the nerve-cells. At bottom, this question resolves itself into the origin of thought and consciousness. If healthy blood supplied to healthy nerve-substance is the sole occasion of healthy nervous function, such function must be dependent upon and consecutive to such a supply of healthy blood. But if healthy nerve-substance can originate its own activity, by an independent and spontaneous act, which occasions those molecular changes of involution and repair, to effect which the capillaries and their contents are essential, then Rokitansky's view of the pre-ordination of cellular change to vascular change may be correct.

But even admitting the possibility of this, the connection between cellular and vascular change is of so intimate a character that it is difficult to assent to Rokitansky's proposition, that pathological conditions of the cerebral vessels are to be viewed as secondary phenomena. This question is of far greater importance than may at first appear; since it has been quite the custom, among a certain class of writers, to argue that the pathological changes discoverable in the brains of insane persons are secondary changes, of little importance to the elucidation of mental disease. Pinel, and after him, Esquirol, unfortunately expressed this opinion. These great alienists, with vast experience of the phenomena of Insanity, lived and wrote before pathological knowledge was developed into a science. They looked for gross and unmistakeable changes of structure. Failing to discover these, they were led to the admission (which few pathologists of the present day would endorse) that functional disturbance may exist without organic change, and that organic change may exist without necessary connection with functional disturbance. Their observations have been quoted, and their opinions repeated and developed by numerous writers, whose prejudices or preconceived beliefs have led them to regard Insanity as the condition of a supposed metaphysical entity, whose existence admits of verbal statement but eludes all attempts at mental conception.

The opinion that pathological conditions of the cerebral vessels are secondary phenomena is available for this purpose, because in a large number of instances such conditions are the only visible and appreciable changes which present themselves.

The theory of the metaphysicians is based—1st, upon the assumption that Insanity may exist without cerebral change; and 2nd, upon the assumption that the visible changes which are most observed (that is, the vascular changes) are not primary and essential phenomena, but secondary and unessential. It therefore becomes of the utmost importance that clear ideas should be formed respecting the succession and dependence of pathological phenomena.

That functional disease, both of the brain and of other organs, may exist without appreciable change of structure, is a fact which will continue to be explained by some persons of a certain mental constitution, by verbal formularies respecting vital and spiritual dynamics, and which will, by other minds, who submit their operations of thought to more stringent rules, be attributed solely to our limited powers of observation. But the question of the primary or secondary nature of the pathological changes which are found to exist in the brains of persons dying insane is a point on which differences of opinion exist, even among persons who look to structural change alone as the cause of functional disturbance. The opinion on one side may be thus stated: the morbid activities of the cerebral cells, being excited by sensational impressions, are the determining cause of morbid conditions of the cerebral capillaries. The adverse opinion may be thus stated: a morbid condition of the cerebral capillaries, occasioned by agencies influencing the circulation, is the determining case of morbid changes in the cerebral cells. An appeal to the ætiology of Insanity seems to assure us that both views are partially right, and both are partially wrong. Functional disturbance of the brain may, undoubtedly, be occasioned by changes provoked in its organism by sensational impressions, and between such impressions and the cerebral vessels a condition of the cerebral cells must undoubtedly intervene. In cases of Insanity so produced (that is, in most cases dependent upon moral causes) it may be granted that a pathological condition of the cerebral vessels cannot be antecedent to a pathological condition of the cells. But, if subsequent thereto, it must be immediately subsequent and necessary.

It is supposable that the first cell change is slightly anterior to any modification of the capillaries which supply nutriment to, and remove material from, the morbid cells; but it is difficult to believe that morbid changes can take place in the cells of an organ, without the capillaries being immediately influenced

thereby. Any change so produced in the capillaries may therefore be theoretically called secondary; but if secondary, it is, nevertheless, a necessary change without which the condition from whence it arises cannot continue to exist.

The physiological vascular changes which take place in the lungs are secondary to impressions made upon nerve-cells. It is thus that they are first excited, and continue to be maintained. But they are a necessary consequence of such impressions, and a necessary condition of the continuance of such impressions. Thus, although secondary, they are not the less physiologically necessary.

In most instances of Insanity arising from physical causes, it is probable that the pathological condition of the cerebral cells is subsequent to, if not dependent upon, the pathological condition of the cerebral capillaries. It is unnecessary to go through the roll-call of the physical causes of mental disease; suffice it to say, that injuries to the head, fever, suppressed discharges, alcohol, and other noxious ingesta, can only influence the cerebral cells through the medium of the capillaries.

There may be some doubt respecting cases occasioned by nervous irritation, propagated from distant parts of the body, or affecting the brain in the manner which we formulate under the term of nervous sympathy. With regard to many other physical causes of mental disease, it is scarcely possible to doubt, that a pathological condition of the cerebral vessels is not only an essential condition of the disease, but that it is also one which takes place in order of time antecedent to any pathological condition of the cerebral cells. But, whether the cerebral changes observable in the insane are primary or secondary, it cannot be denied that they are the results of the disease; and even if it could be proved that they were invariably of a secondary character, they would not the less bear testimony to the nature of Insanity being that of morbid physical change in the cerebral organs. Undoubtedly, the vast majority of the pathological appearances observed in the cerebrum are of a secondary nature, since they are those of atrophy and decay. But the charred beams and blackened walls of a ruined homestead do not speak more eloquently of previous conflagration than the dilapidated roof and mouldering structure of a decaying building speak of the slower process of oxydisation or eremacausis; and a brain with organised exudations testifies not more strongly to previous deviations from the normal state than an atrophied

brain, without such accompaniment, speaks to the existence of the slower process of defective nutrition and degenerative metamorphosis.

According to Virchow, however, the cell is less dependent in its pathological changes upon the condition of the vessels than it has hitherto been believed to be. In illustration of this view, Virchow not only points to the well known fact that inflammatory changes take place in parts of the body which are at a certain distance from vessels, as in the centre of the cornea, in cartilage, and the internal substance of tendons, but he maintains, that in other pathological processes the cell has the ability to draw to itself new material, and again to dispose of it by "a simply nutritive restitutional power." He believes that what are called exudations do not exist so frequently as is supposed; for he says, "In a tissue which consisted of cells, I could, after the exudation, see nothing but cells, and in tissues composed of cells and intercellular substance—nothing but cells and intercellular substance." The cells, indeed, were larger, fuller, and filled with matter with which they ought not to have been filled; but in such cases "the absorption of matter into the interior of the cells is unquestionably an act of the cells themselves." Even in cases where what are called exudations do undoubtedly exist, Virchow considers them to be drawn from the vessel by the activity of the cell, rather than exuded by any action of the vessel. "A good deal is, as we have seen, not so much exudation as, if I may so express myself, an educt from the vessels in consequence of the activity of the histological elements themselves." (Virchow's 'Cellular Pathology,' translated by Chance.) In fine, the primary activity of the cell is the broad doctrine taught by this great pathologist—an activity which in inflammatory processes he considers always due to irritation. The doctrine, indeed, is not so new as the facts and arguments adduced in its proof. In multiplying and strengthening these, we cannot but hope that much light will be thrown upon the obscurities of our special department of pathology, and that through this powerful aid, we may, before long, be enabled to speak in more positive terms of the changes known to take place in the cell-apparatus of the brain.

Cerebral Atrophy.—Insanity is a chronic disease, and not frequently fatal in its early stages. It is therefore unusual to meet with the simple appearances of congestion, or of anæmia, which have hitherto occupied our attention. The commonest appear-

ance met with in the brains of insane persons is that of shrinking. In the January number of the 'British and Foreign Medical Review,' for 1855, we have published some investigations made upon this important subject, and have there tabulated the measurements and weights of sixty-three brains, which were examined for this especial purpose.

The method we adopted for estimating the amount of atrophy was as follows :

"The brain, including the medulla oblongata, is slowly immersed in a vessel of convenient size and shape, which is filled with water up to the level of a capacious spout placed at an acute angle with the sides. Before the brain is so immersed, the contents of the ventricles, and any serum which may be in the subarachnoid tissue, are allowed to escape through several long incisions. The organ is not allowed to remain immersed long enough to imbibe water, which it is capable of doing in large quantity, as proved by the experiments of Nasse. As it descends in the vessel, the water it displaces escapes from the spout, is caught and measured, and affords a criterion of the actual bulk of the brain. (See 18th column of Table.)

"The capacity of the cranium is obtained by a somewhat more troublesome process. It is well known that one of the older physiologists employed millet-seeds for this purpose ; Sir W. Hamilton used sand ; but neither of the methods would be feasible in the recent subject. The plan which the author has adopted is as follows :—The foramina at the base of the brain are carefully plugged with tenacious clay—that used by statuaries for modelling answers best ; a small triangular piece of the frontal bone is removed with the saw ; the calvarium is readjusted to the base, the dura mater being left unattached. The space left by the attrition of the saw, in removing the calvarium, is filled up with clay ; and a narrow bandage, with clay spread upon it, is made to surround the cranium three or four times, covering this space. If this manipulation has been carefully done, the cavity of the cranium will now be found as tight as a bottle. Sixty fluid ounces of water having been measured, a sufficient quantity to fill the cranial cavity is now poured into it, by means of a funnel, through the orifice of the frontal bone, taking care that the stream does not wash away the luting of the foramina. The fluid which remains, after having filled the cranial cavity, is measured, and being deducted from the sixty ounces, gives the amount employed. Thus, if

nine ounces and two drachms remain, the capacity of the cranium was fifty ounces and six drachms; and if the amount of the fluid displayed by the brain was forty-five ounces, the amount of atrophy was five ounces and six drachms. To this must be added half an ounce for the space occupied by the luting, giving the actual amount of atrophy as six ounces and two drachms. Of course this examination is made before the chest is opened."

The results of these sixty-three examinations are given in the annexed Table.

EXAMINATION OF THE ENCEPHALIC ORGANS IN SIXTY-THREE CASES OF INSANITY.

Patient's number.	Sex.	Age.	Form of mental disease.	Supposed cause of mental disease.	Duration of mental disease.	Apparent cause of death.	Measurements of body.		Measurements of cranium (scalp removed).			Thickness of grey matter of cerebral convolutions in $\frac{1}{100}$ ths of an inch.	Specific gravity of cerebrum: tubular nenrine.	Specific gravity of cerebrum: vesicular neurine.	Specific gravity of cerebellum.	Weight of brain and medulla oblongata (avoirdupois).	Displacement of water by brain in fluid ounces (apothecaries').	Capacity of cranial cavity for water (fluid ounces, apothecaries'); half an ounce added for luting.	Amount of atrophy shown by difference between displacement and capacity.
							Height.	Breadth from one acromion to other.	Circumference.	Between meatus and over vertex.	Root of nose to occipit. protuberance.								
							ft. in	in.	ft. in.	in.	in.	in.				lb. oz.	oz.	oz.	oz.
1196	M.	28	Dementia	Blow on head.....	3 years	{Apoplexy, with convulsions}	5 3½	15	1 9⅛	13½	14	$\frac{7}{100}$	1·034	1·040	1·045	3 0¼	44¾	48	3¼
155	F.	37	Idiocy	Malformation ...	Congenital...	Heart disease.....	4 7	13	1 8	13	13⅜	$\frac{7}{100}$	1·042	1·034	1·042	2 0½	37¾	40½	2½
809	M.	18	Epilepsy	Epilepsy	4½ years	Peritonitis	5 9	14	1 8½	12¾	14½	$\frac{7}{100}$	1·034	1·041	1·041	3 3¼	49	49½	½
1121	F.	23	Melancholia	Unknown	11½ months...	Phthisis	5 4	13½	1 8	12	12⅜	$\frac{7}{100}$	1·041	1·034	1·041	2 8½	39	41½	2½
523	F.	77	Mania	Unknown	7 years	Phthisis	5 1½	14	1 8½	12	13	$\frac{7}{100}$	1·040	1·048	1·035	2 13	43¼	45½	2¼
1186	F.	67	{Chronic mania, with dementia}	{Death of husband and son}	5 yrs. 9 wks.	Old age	4 10½	13	1 8	11⅛	12	$\frac{7}{100}$	1·032	1·032	1·041	2 8¾	37½	43½	6
1133	F.	30	{Mania: general paralysis}	{Reduced circumstances}	11 months ...	General paralysis ...	5 3½	12	1 8½	12½	12¾	$\frac{7}{100}$	1·034	1·034	1·040	2 9½	40½	47½	7
377	F.	33	Idiocy	Malformation ...	From birth...	Apoplexy	4 8	11¾	1 7	11½	12¾	$\frac{7}{100}$	1 043	1 038	1·039	2 7½	36½	40½	4
498	F.	41	Epileptic mania.....	Puberty	Unknown ...	Epilepsy.....	5 2½	15	1 8¾	12¾	13	$\frac{7}{100}$	1·041	1·040	1·041	3 1¼	45½	51½	6½
255	M.	57	General paralysis ...	Blow on head.....	Unknown ...	Convulsions	5 6½	15	1 10	13¾	14	$\frac{9}{100}$	1·041	1·041	1·041	2 13¾	43½	52	8½
147	F.	53	Mania	{Disappointed affections}	Unknown ...	Bronchitis: phthisis	...		12½	1 8	13	13⅞	$\frac{7}{100}$	1·035	1·035	1·035	2 11¾	41	44½	3½
1129	M.	66	Dementia	Fever	4 yrs. 8 mos.	Softening of brain...	5 6½	14½	1 9½	13	14⅛	$\frac{7}{100}$	1·036	1·032	1·032	2 14½	43	56¾	13¾
1127	M.	21	Epileptic mania.....	Too rapid growth	4 years	Epilepsy.....	5 5	14	1 8	11	13⅜	$\frac{8}{100}$	1·042	1·041	1·042	2 0¾	42	44	2
1181	F.	38	General paralysis ...	Dissolute habits...	Unknown ...	{Paralysis, with epilepsy}	5 5½	13	1 7½	11⅞	12¾	$\frac{7}{100}$	1·042	1 041	1·042	2 9	40	42½	2½
1067	M.	24	{Melancholia: deaf and blind}	{Reduced circumstances}	1 year 7 mos.	Phthisis	5 7	15	1 8½	12	12¾	$\frac{7}{100}$	1·044	1·035	1·049	2 14¾	44½	52½	8
1064	F.	60	Melancholia	Unknown	2½ years	Paralysis	5 2	13⅜	1 8	12	13	$\frac{7}{100}$	1 036	1·033	1·042	2 11	39	40½	1½
1197	M.	27	Idiocy	Malformation ...	From birth...	Phthisis	5 5	13	1 9	13.	13¾	$\frac{8}{100}$	1·040	1·038	1·042	2 15½	40	44½	4½
869	M.	37	Mania	Unknown	5 yrs. 3 mos.	Results of apoplexy	...	13	1 9	12¾	14	$\frac{7}{100}$	1·033	1·035	1·034	2 7¾	37½	52½	15
1223	F.	55	Mania	{Prostitution: intemperance}	5 months ...	Results of apoplexy	5 7	13½	1 8	13	13⅜	$\frac{7}{100}$	1·041	1·035	1·041	2 7	37	42	5
517	M.	35	Epilepsy	Epilepsy.....	2 months ...	Phthisis	5 8	15⅛	1 8¾	12	13	$\frac{7}{100}$	1·041	1·039	1·040	2 13½	41¼	48	6¾
1040	F.	75	Chronic mania	Unknown	2 months ...	Bronchitis	4 10	14½	1 8¾	12	12⅜	$\frac{7}{100}$	1·039	1·039	1·041	2 12	41	47½	6½
431	F.	13	Epilepsy	Fright.....	7 yrs. 5 mos.	{Bronchitis and epilepsy}	4 3	10	1 8	12¾	11½	$\frac{7}{100}$	1·039	1·039	1·039	2 12	42	44	2
712	M.	49	Melancholia	{Anxiety about business}	4 yrs. 1 mo.	{Dysentery and heart disease}	5 6½	15	1 8⅛	12	13⅛	$\frac{8}{100}$	1·036	1·038	1·036	2 13½	44	44	0
488	M.	72	Dementia	Not known.....	Congenital...	Chronic Pleurisy ...	6 6	14	1 10	13	14⅛	$\frac{8}{100}$	1·036	1·036	1·036	3 7	53	58½	5½
210	M.	34	Epilepsy.....	Not known.....	Unknown ...	Epilepsy.....	5 4½	14	1 9½	12½	14⅜	$\frac{7}{100}$	1·049	1·041	1·044	3 11	56	58½	2½
763	F.	40	Mania	Intemperance ...	4 yrs. 4 mos.	Phthisis	5 7	14½	1 8½	11⅝	13	$\frac{7}{100}$	1 041	1·037	1·041	2 11	42½	43½	1
701	M.	68	Mania	Not known.....	7 years	General Paralysis...	5 7	16	1 9½	13⅛	13⅜	$\frac{6}{100}$	1·042	1·033	1·042	4 0	46½	55½	8¾

749	F.	90	Mania	Reduced circumstances	4 years	Old age	5	5	12	1	9¼	12	14	8/100	1·037	1·041	1·042	2	12½	40	48	8
849	F.	31	Epileptic dementia	Epilepsy	17 years	Epilepsy	5	6	14	1	9⅛	12½	13	9/100	1·038	1·038	1·038	3	3	47½	50½	3
264	F.	63	Incoherence	Not known	Unknown	Inflammation of the lungs	5	2½	13½	1	8¼	11	13	8/100	1·040	1·037	1·043	2	13½	40	43	3
972	M.	46	General paralysis	Not known	2 yrs. 3 mos.	General paralysis	5	3	13¼	1	9	12½	13½	7/100	1·032	1·033	1·042	2	13	40	50¾	10¾
1028	F.	51	Recurrent mania	Not known	3 yrs. 5 mos.	Syncope: heart disease	4	10	13½	1	8½	13½	13	7/100	1·043	1·036	1·046	3	1½	46½	52	5½
1163	M.	38	Mania	Hereditary predisposition	4 years	Pneumonia	5	8	15	1	8¾	12	13¾	7/100	1·042	1·035	1·041	2	14	45	49½	4½
738	M.	48	Epilepsy	Unknown	Many years	Epilepsy: heart disease	5	3	15	1	8	11¾	11¾	9/100	1·039	1·035	1·042	3	12	41½	49	7½
673	M.	45	General paralysis	Fright from shipwreck	5 yrs. 3 mos.	General paralysis	5	4	15	1	0¾	12¾	12	8/100	1·040	1·047	1·042	2	8	40	44½	4½
569	F.	44	General paralysis	Unknown	7 years	General paralysis	5	0	13½	1	8	11⅛	13	8/100	1·040	1·038	1·045	2	10½	41¾	42½	¾
1151	F.	33	Mania	Dissipation	5 weeks	General paralysis	4	6½	14	1	7½	11	11½	6/100	1·040	1·036	1·040	2	7	38	40½	2½
995	F.	20	Epileptic mania	Fever	7½ years	Phthisis	5	0	13	1	8½	11¾	12¼	7/100	1·041	1·038	1·041	2	14½	46	47½	1½
1136	M.	74	Mania	Unknown	6 months	Dysentery: diarrhœa	5	2	14	1	7¼	12½	12	7/100	1·032	1·030	1·030	2	11½	41¾	44½	2¾
1068	M.	31	General paralysis	Intemperance	1½ year	Dysentery: diarrhœa	5	1	13	1	8¾	12	12⅛	7/100	1·043	1·043	1·045	2	10	47	50½	3½
1083	M.	72	Dementia	Erysipelas of head	4 yrs. 7 mos.	Diarrhœa	5	4½	14	1	9½	12	12⅛	9/100	1·040	1·040	1·040	2	10	41	55½	14½
866	M.	34	Recurrent mania	Irregular living	2½ years	General paralysis	5	7	14½	1	9	12¾	12½	7/100	1·040	1·039	1·040	2	15	47	50½	3½
898	M.	37	Mania	Unknown	2½ years	Pleuritis	5	6	15½	1	8	11¾	11¾	7/100	1·040	1·035	1·041	2	15½	45½	46	½
945	M.	65	Chronic mania	Unknown	Unknown	Diarrhœa	5	8	15	1	9	12	13	7/100	1·041	1·032	1·041	3	1	48	53½	5½
614	F.	64	Melancholia	Hereditary predisposition	24 years	Pleuro-pneumonia	4	10	12	1	7½	12	11½	8/100	1·038	1·038	1·038	2	8½	40	44½	4½
952	M.	41	General paralysis	Destitution	2 yrs. 1 mo.	Apoplexy	5	6	12	1	8½	12	12	7/100	1·041	1·037	1·041	2	12	43¾	49½	5¾
1110	M.	40	Mania	Disappointed affection	Unknown	Apoplexy	5	6	15	1	8½	12½	13½	8/100	1·037	1·033	1·038	2	10½	43	52	9
438	M.	31	Dementia: epilepsy	Fright	12 years	Phthisis	5	5	14	1	9½	12½	13¼	7/100	1·039	1·033	1·037	3	3	50	54½	4½
1100	M.	50	Melancholia	Intemperance	8 months	Phthisis	5	9	15	1	10	12	13	9/100	1·040	1·032	1·042	3	0½	55	57	2
1106	M.	52	Dementia	Unknown	13 months	General decay	5	9½	16	1	8	11½	13	7/100	1·041	1·040	1·046	2	10¾	42¾	44½	1¾
595	F.	78	Dementia	Unknown	3 years	Gradual decay: diarrhœa	5	4½	14	1	9¾	12	13	7/100	1·040	1·038	1·040	2	11	43	52	9
1099	F.	68	Mania	Unknown	6 weeks	Gradual decay	4	8	12	1	8½	12	12½	7/100	1·040	1·036	1·043	2	5¾	37	47½	10½
1018	M.	61	Melancholia	Intemperance	1 year	Heart disease	5	8	15⅞	1	9½	13	13¾	7/100	1·041	1·036	1·041	3	1	47	55¾	8¾
643	F.	29	Idiotcy	Unknown	From infancy	Chronic peritonitis	5	1	12⅛	1	7⅞	11¾	12¼	8/100	1·040	1·038	1·040	2	7¾	40	43	3
644	M.	72	Mania	Unknown	7 years	Heart disease	5	4⅓	14	1	8½	12½	12½	7/100	1·046	1·040	1·046	2	8¾	38	46½	8½
776	F.	78	Dementia	Unknown	3 years	Gradual decay: diarrhœa	5	4½	14	1	9¾	12	13	7/100	1·040	1·038	1·040	2	11	43	52	9
1894	F.	42	General paralysis	Prostitution	9 months	Apoplexy	5	2½	14½	1	7¾	11¾	11¾	8/100	1·041	1·039	1·044	2	10½	42	43½	1½
1245	F.	38	Mania, chronic	Unknown	2 years	Phthisis	5	0	13	1	8	13	13⅜	9/100	1·041	1·030	1·041	2	8½	40	45½	5½
1125	F.	49	Mania, chronic	Death of husband	7 years	Gradual decay	5	3	14	1	8	12¾	13	7/100	1·034	1·034	1·034	3	0	48	50½	2½
1158	M.	43	General palsy	Blow on head	1½ year	Paralysis	5	9	15	1	8½	12½	13⅜	7/100	1·037	1·031	1·037	2	11¾	41¼	50½	9¼
1262	M.	70	Dementia	Unknown	Unknown	Disease of heart and lungs	5	5	15	1	9½	13½	13	7/100	1·040	1·030	1·040	2	12½	43	53½	10½
345	F.	40	Epilepsy	Unknown	Unknown	Epilepsy	4	10	11½	1	7¾	13⅜	11½	8/100	1·044	1·044	1·044	2	9¾	41	45½	4½
1150	M.	52	General palsy	Unknown	2 years	Gangrene of lung	5	6	15	1	10	13¾	13½	8/100	1·040	1·040	1·040	3	2	49¼	59¾	10½

The general results were an average amount of atrophy to the extent of five ounces and a quarter, varying from nothing to fifteen ounces, or one third of the whole cerebral mass. In thirteen patients whose ages exceeded sixty-five years, the average amount of atrophy was eight ounces and one sixth, or more than fifty per cent. above that of the old number. The amount in epileptic cases was greatly below the average of the whole. The general result arrived at was that—

"In cases of Chronic Mania, of Dementia following Mania, and of primary Dementia, the amount of cerebral atrophy may generally be calculated upon by the enfeeblement of mental power. In all these forms of disease we have found some amount of atrophy, and have, for the most part, found this amount to correspond with the degree of mental decadence estimated with its duration. The first of these conditions, that is, the degree, it is impossible to tabulate: the second, that is, duration, it is not easy to show accurately in a tabular form. The sixth column of the table above referred to represents the duration of disease from the period of the first appearance of symptoms, as nearly as it could be ascertained. These symptoms may have been slight for years, and grave for a short time only before death."

"It must not be thought that extensive atrophy is only found where the mental symptoms are solely those of impairment or loss of function. It is not inconsistent with much mental excitement, or with numerous delusions; but such excitement is powerless, and the delusions are transitory and puerile. Whether *measurable* atrophy exists in the early stages of Acute Mania and Melancholia, the data we possess do not prove; although they are amply sufficient to demonstrate that the cerebral conditions upon which these forms of Insanity depend tend to pass into an appreciable and measurable shrinking of the brain substance, unless the healthy cerebral action be speedily restored."

"Opinions on the ultimate nature of the nutritive defect which results in cerebral atrophy and Insanity must necessarily be speculative, since the ultimate nature of nutrition itself is unknown to us.

"Its apparent and exciting causes may be classified as follows:

"1. In predisposed persons it may depend upon poverty of blood, since it is producible by deficient food and by diseases

interfering with the alimentative processes; and since an analogous train of symptoms occurs during starvation.

"2. It is probable that in other cases it may depend upon some derangement of 'the intimate connexion between the nervous and vascular systems, through which their most important functions are performed,' since it is sometimes found to be accompanied by extensive disease of the minute cerebral vessels, the coats of which can be shown to be subject to fatty or earthy decay.

"3. A third class of cases would appear to be producible by the molecular change effected by blows or violent concussions, and followed by atrophy, owing to some process as yet unknown to us. Atrophy of a testicle from a blow, without inflammation, presents an analogous instance.

"4. Another class of cases are those following inflammation, and perhaps also following frequent and long-continued congestion. The basis of inflammatory action is an abnormal state in the mutual relationship between the blood and the tissues. That this state effects changes in the tissues, which, if not speedily repaired, must be followed by conditions of degraded nutrition, is proved by the pathology of every organ in the body. The brain certainly offers no exception. The capillaries become blocked up, or their coats become spoiled for the purposes of nutritive regeneration of the tissues.

"It also appears probable that, during inflammatory or congestive conditions, albuminous matter or serous fluid may be effused by the capillary network into the intimate structure of the brain; thus separating its vesicles and tubules from the capillaries, and preventing the due nutrition of the elements of nerve-structure. For this form of atrophy, we have formerly suggested the prefix of *relative*, as it may exist where there is no shrinking of the brain; atrophy with shrinking being termed *positive*. The two, however, may, and frequently do, coexist.

"5. The most numerous class, however, is that which depends upon want of rest, during the especial period of nutrition of the brain—namely, sleep. Want of refreshing sleep we believe to be the frequent origin of Insanity, dependent upon moral causes. Very often, when strong emotion tends to the production of Insanity, it causes, in the first instance, complete loss of sleep. In many cases, however, the power of sleeping is not lost, but the quality, so to say, of the function is perverted, the sleep being

so distracted by agonising dreams, that the patient awakens jaded rather than refreshed. We have known several instances in which patients becoming convalescent from attacks of Acute Mania have distinctly and positively referred to frightful dreams as the cause of their malady ; and it is probable that a certain quality of sleep, in which dreams excite terror and other depressing emotions more forcibly than waking events are likely to do, is scarcely less adverse than complete insomnia to the nutritive regeneration of that portion of the brain on whose action those emotions depend. In such a condition it is highly probable that the very portions of the brain which most need a state of rest are, even during the sleeping quiescence of other portions, more wastefully engaged in the activity of their functions than they could be in the waking state. The main-spring of Insanity is emotion of all kinds. This, stimulated by phantasy, and emancipated from the control of judgment, during harassed sleep, may be more profoundly moved than at any other time. Bichat considered sleep to be a very complex state, in which it was possible for the cerebral functions to be in very different conditions of quiescence or activity : 'Le sommeil général est l'ensemble des sommeils particuliers ;' and he considered that dreams represent the active or waking condition of certain of these functions during the repose of the others. In this manner a patient, some one or other of whose emotions has been profoundly affected, may continue to be sleepless, as far as the activity of the particular emotion is concerned, although he may by no means be the subject of general insomnolence ; and this consideration will afford what seems to be a fair explanation of the exceptional cases to this rule, that the moral causes of Insanity act by preventing the due nutrition of the brain, as it occurs during sleep."

On these five classes of the causes of atrophy we shall here make some further observations. In tracing the course of cerebral atrophy, it will be convenient to select that variety whose causation and phenomena are of the most simple and intelligible kind. This would appear to be presented by the atrophy accompanying old age. The balance between the functions of repair and decay, which in health maintains every organ in a state of size and power uniform with certain limits, is lost as age advances, and the tissues of the body lose their perfect organization and pristine vigour. The duration of the life of an animal depends upon the period of its existence when this loss

of balance occurs; but it is not easy to understand why these slow but fatal changes take place at certain specified periods; why the tissues of a sheep become worn out at the end of ten years, and those of a stag endure seven or eight times as long. It is impossible even to point out any necessity for this degradation of tissue at all. We must accept, as an ultimate fact, or as a law of nature, that such degradation of tissue in the organs of all living beings takes place at a certain fixed period of their existence.

It appears to us not improbable that the age of senile decay in different animals may depend upon an hereditary habit of life fixed in the first instance by the more or less perfect manner in which some portion of the organism not in itself vital has been fitted to the circumstances of living. For instance, a sheep begins to lose its incisor teeth at four years old; when they are lost it can no longer graze the mead, the vital tissues then degenerate from want of nutrition, and if the sheep be not converted into mutton it will die worn out at an early age, leaving behind a progeny with the hereditary tendency to decay at the same age, even if artificial food were supplied. A stag's teeth do not decay early, and it can browse even after it has lost the incisors. It, therefore, not only lives to a far greater age, but begets offspring whose tissues have an hereditary tendency to postpone the decay of age. The long lives of birds of prey and the short ones of those which are habitually preyed upon and which if not eaten die early of old age, have probably become so through hereditary influences. The first eagle would outlive its victims and transmit to its offspring tissues with an hereditary tendency to resist decay longer than those of the grouse or the pigeon. May we not reasonably expect that in man the longer life conferred by a sanitary civilisation will gradually develop the hereditary tendency to yet longer life, and that the prevention of zymotic disease may, in the lapse of generations, defer the advent of senile decay to a period of life of which we have hitherto had no examples? The prevention of typhoid fever may thus postpone the period of atheromatous deposit.

At present, in man, retrograde changes commence at the age of about sixty years. About that time the nutritive repair of the organs begins slowly to fall short of the amount of their decay. The muscles gradually become smaller, weaker, and paler, and the brain undergoes the same process of change. In

the brain, one cause of this process is, perhaps, more easily traceable than in other organs—namely, to a change in those minute vessels by means of which the processes of nutrition are carried on. Their coats are found to be thickened and opaque, and occupied by that which is called atheromatous deposit—namely, by a material composed of fatty substances and earthy salts. In the larger arteries, whose different coats are distinguishable, this deposit, or rather this degeneration, is found to have its seat external to the elastic coat, and internal to the outside cellular envelope. If this degenerative change can be traced in the smallest arteries, whose construction is capable of being submitted to observation, it is probable that the change is not limited to them, but that it extends to the capillaries, whose minuteness forbids its demonstration. The plasma of the blood would then permeate the capillary walls from within, outwards, and the exhausted cell contents would permeate from without inwards, with slowness ever increasing as the capillary walls were deteriorated. From this slowness would arise lentor of the cerebral functions, displaying itself at the earliest period in those functions whose activity is not kept alive by habitual use; and to a still greater degree in those functions whose activity is dependent upon the stimulation of the senses, the organs of which have also undergone contemporaneous decay. But debility of function, arising from the slow interchange of material between the capillaries and the cells, would not account for atrophy if the balance of the interchange was still exactly adjusted. Slowness of mental function is often seen in persons of phlegmatic habit from this cause, without the condition of atrophy being present. But in the degenerative changes of old age, the balance of exchange between the capillary and the cell contents is not maintained. The probable explanation of this is afforded by the supposition, that the greatest activity of exosmosis from the capillaries takes place in that part of the capillary system which is adjacent to the arteries; while the most active endosmosis of exhausted cell-fluid takes place into that portion of the capillary system which is adjacent to the minute veins. Now, the pathological changes under consideration affect the arterial system, if not exclusively, yet to a much greater extent than they affect the venous system. The arterial capillaries may have coats more thickened and degenerated than the venous ones; and thus a greater impediment be placed against the outflowing of the materials for nutrition and repair,

than against the inflowing of the exhausted cell-fluid, and the foundation of atrophy be established. Whether any pathological changes corresponding in their nature to the fatty degeneration of the arterial coats take place in the cells themselves, we are unable to ascertain, or even to gain better grounds for reasonable conjecture, than the probable participation of all the tissues in the degenerative changes. The law which limits the duration of organic completeness, which weakens the force of that unknown something which we call vital power, and which permits the ordinary chemical affinities of the constituents of the body to exert themselves with increasing force, this law, doubtless, operates upon all parts of the organism, although with different degrees of intensity and at different periods of time. The glands which secrete the hair on the vertex vacate their office before those which secrete the hair on the brows, and the latter do so long before the glands which secrete nails. But the law of decay is universal, and doubtless touches the cerebral cells independently of their connection with the minute vascular network.

Next to the atrophy of old age, that proceeding from pathological changes of the vascular system, approximating to the state called inflammation, is the most intelligible.

We have above given reasons for the opinion that the chronic class of diseases known under the generic term of Insanity are not referable to inflammation of the great nerve organ. Inflammation, however, may, and sometimes does, cause changes in this organ, which are the conditions of Insanity. In the brain the state of inflammation itself either very quickly ceases, or very soon causes death; but when it does cease, it leaves behind it consequences which are frequently the conditions of Insanity, and the causes of cerebral atrophy.

Inflammation of all soft organs is apt to result in atrophy, after the organizable products which at first increase the bulk of the organ have contracted upon the blood-vessels, and cut off, to a greater or less extent, the nutrient supply. The heart, indeed, affords an apparent exception; but its structure is seldom inflamed, and its hypertrophy is consequent upon increased exertion necessary to overcome mechanical difficulties which have arisen from inflammatory injury of its valves or serous covering. That inflammation of the brain is sometimes followed by atrophy, is as certain as that inflammation of Glisson's capsule is followed by atrophy of the liver. Whether it arises

from the same cause is yet unknown. It is now very generally admitted that the organic elements of the brain are bound together by connective tissue; the *neuroglia* or nerve-cement of Virchow corresponding more or less in its character with the connective tissue of the liver, which, when altered by inflammatory processes, squeezes that organ into a hobnailed callosity. We have as yet no facts upon which to ground the opinion that changes in the neuroglia are frequent causes of cerebral atrophy. On this point, as on others, we must await the revelations of microscopic observers, who may perhaps be able hereafter to demonstrate a kind of cirrhosis in the brain.

Thus we wrote in the second edition of this work, and we retain the passage now that our anticipations have been fulfilled by the accurate histological observations of Dr Lockhart Clarke, Dr Batty Tuke, and others. The term scleroma or scleriasis has indeed very properly been substituted for that of cirrhosis, which refers to the colour of the diseased liver, and is obviously inappropriate to designate an analogous change in the brain or spinal chord.

In the meanwhile, the newest pathological science is tending to discredit the agency of the blood-vessels, and to locate all force of change in the cells. The truth in this matter will, perhaps, be found to be between Virchow and what he calls the Vienna school; so that the condition of the cells, and that of the nutrient vessels, may both be found of importance in the causation either of disease or of natural decay.

Of this, however, there can be little doubt, that the nutrition of the brain depends upon its exercise, and its exercise depends upon the perfection of its organisation. The organisation once permanently injured, its uniform and harmonious exercise becomes henceforth impossible; its nutrition is impeded and atrophy results.

It will appear from the above that we attribute a large share of mental disease to pathological conditions of the brain, whose most prominent characteristic is defective nutrition of the organ. In a very large proportion of cases this deficient nutrition is manifested after death by an actual shrinking of the brain—a shrinking which is coextensive with the duration and the degree of loss of mental power. This loss of power marks all instances of cerebral decay, and is consequently a condition of most chronic cases of insanity. Partial mental excitement is, it is true, an incident constantly recurring, even in forms of mental

disease where the general loss of power is most conspicuous, and where organic atrophy is found to be most considerable. This partial and irregular excitability is common to organs whose nutrition is defective, and the general vigour of whose functions is greatly weakened. Thus, a diseased stomach, quite unable to supply the amount of solvent secretion needful to digest a due supply of food, frequently torments its wearer by excessive and irritating secretions of gastric juice, at times when it can serve no good purpose, and only tends to heart-burn and acid vomiting. So, also, the atrophied brain is exceedingly prone to sudden erethism, more or less partial, which manifests itself in strange and irregular excitement of the mental functions. Such excitement is usually followed by increased debility of function; and it is by no means uncommon to observe a regular alternation of mental excitement and debility. The excitement is more or less partial, and affects principally the emotional functions. The intellectual functions are also liable to be so affected; but, inasmuch as the operation of the whole of these functions is necessary to the performance of common intelligential acts, and, as in spoilt brains, the whole of them are not usually excited at the same time, the fact of this condition in any one of them often attracts no attention.

The emotional and instinctive functions present the most frequent and easily appreciable instances of cerebral excitement. Pathologically they present counterparts of excessive gastric secretion which takes place in the ill-nourished stomachs of phthisical patients; and there can be little doubt that, if we knew the locality of the different functions of the brain, and were capable of inspecting its organs during life, we should find this temporary and partial excitement characterised by local erethism of the pia mater. It is one indication of the small share which inflammatory processes have in the production of mental disease, that the partial hyperæmia to which the atrophied brain is peculiarly liable never results in true inflammation.

Insanity by Sympathy.—That the organ of the mind is thrown into diseased action by sympathy with, that is, by suffering with, other diseased or injured parts, is scarcely less certain than that the stomach, the heart, or the spinal marrow, are so affected. The *modus operandi* of this cause of disease is by no means clearly intelligible, either in relation to the brain or to the other organs, the explanations usually offered being little

more than diversified verbal formularies of the fact. Thus, when we say that the irritation of the cervix uteri is reflected upon the stomach, occasioning vomiting and distress in that organ, we come no nearer to an explanation of the mode of action than when we say that the stomach sympathises with, or suffers in conjunction with, or in consequence of, irritation of the organ first affected. And, in like manner, when we say that the brain suffers sympathetically with the uterus or stomach, we use a mere verbal formula for the colligation of two facts, with the intimate nature of whose connection we are wholly unacquainted. The knowledge which we actually possess on this subject may, in general terms, be thus stated: the most important organs of the body are liable to be thrown into states of functional disturbance by irritation or injury of other and frequently of distant, parts. The liability to this disturbance depends, in the first place, upon what is called constitutional irritability, or a state of the system in which slight causes of nervous action produce great effects; and, in the second place, upon the intimate connection of the organ secondarily affected with the nervous system, and its liability to be thrown into disorder by any alteration or disturbance in the state of that system. Any premature attempts to explain this important pathological fact, by hypotheses respecting nervous currents, or the exhaustion of nervous power, seem at present rather likely to obscure than elucidate the matter. We may, however, come one step nearer to a reasonable view of the fact, by considering all sympathetic disturbance as taking place in the nervous system itself; and by considering the functional disturbance of secreting and other organs as merely the expression of abnormal states of the nerves in those organs. Strictly speaking, therefore, sympathetic vomiting or palpitation is as purely a nervous phenomenon as loss of consciousness or convulsions; and the latter as mental excitement or delusion.

In early life the cerebro-mental functions are more intimately connected with those of the spinal system than at subsequent periods, and distant irritations are more frequent and efficient causes of mental disturbance in the infant than in the adult. Delirium and coma are, in children, frequently produced by intestinal irritation. In the adult, delirium, in comparison with convulsions, is so rarely a consequence of simple irritation, as to furnish strong evidence that the brain proper may exercise its functions with great independence of the excito-motory or spinal

system. The most frequent and unquestionable instances of cerebral disturbance from the distant irritation or sympathy are afforded in epilepsy and hysteria. In both of these diseases the paroxysm is compounded of disturbance both of the cerebral and spinal functions; but during the interval, cerebral disturbance alone is frequently present, and in the paroxysm itself it is never wanting. In epilepsy, especially, is this the case; for loss of consciousness, which is the primary and leading feature of the paroxysm, is the most serious and profound indication of cerebral disturbance, no less, in fact, than the temporary abnegation of all cerebral function. In hysteria, loss of consciousness is of less certain occurrence, although sometimes it is doubtless complete. In the interval of hysteria, however, cerebral disturbance is often not less marked than in epilepsy. The emotions are perverted, and even delirium is by no means uncommon. Now, both of these diseases are frequently but the expression of sympathy with irritation of distant parts of the nervous system in predisposed subjects. Therefore these diseases present unquestionable instances of mental disturbance, occasioned by sympathy of the brain with irritation of the distant nerves; of the central organ of the system, suffering in its noblest functions, in sympathy with some fibres of its peripheral extension.

The most probable explanation of the sympathetic disorders is, that injury to one part of the nervous system interferes with the process of secondary nutrition taking place in other parts. The rapidity with which they occur may, at first sight, seem adverse to this view; for instance, in the case related by Dr Gooch, "Dr Denman passed a ligature round a polypus of the fundus of the uterus; as soon as he tightened it, he produced pain and vomiting. As soon as the ligature was slackened, the pain ceased; but whenever he attempted to tighten it, the pain and vomiting returned. The ligature was left on, but loose. The patient died about six weeks afterwards, and on opening the body, it was found that the uterus was inverted, and that the ligature had included the inverted portion." Sympathetic disturbance of the functions of the brain are, in some instances, scarcely less rapidly occasioned, or less capable of receiving immediate relief. Thus, the irritation of a cutting tooth will sometimes produce in a child delirium and coma; and the removal of the irritation, by incision of the inflamed gum, will remove the symptoms almost as speedily as in the example

above quoted. But when it is considered that the processes of secondary nutrition are those upon which the functions of all organs immediately depend, and that any interference with these processes must necessarily and immediately disturb the normal course of the functions, the short interval which is frequently observed to exist between the production of irritation and its sympathetic consequences, will present no difficulty to the adoption of the theory which explains the latter in the manner here suggested. In our present state of ignorance of the manner in which influences are communicated from one part to other parts of the nervous system, it is impossible to explain how the processes of secondary nutrition in the nervous structure are interfered with in distant parts thereof. But this difficulty scarcely diminishes the probability that the explanation offered is the true one; and, indeed, only presents one of those imperfect links in reasoning, which the immaturity of physiological science renders of such constant occurrence in all departments of medical science. The operation of remedies is consistent with this view of sympathetic disturbance, since those narcotic substances which retard the processes of waste and repair in the nervous system, afford the most efficient means of preventing the nervous functions from suffering in consequence of peripheral nervous injury. Moreover, this view of pathological sympathy is consistent with the only rational view of physiological sympathy. Secretions are the result of secondary nutrition. Many secretions are normally excited by the irritation of nerves more or less distant; that of the mamma, for instance, of the testis, and to some extent, of the gastric glands. Here then, at least, are processes of secondary nutrition energetically influenced by the irritation of distant nerves.

The organs of the brain are less under the influence of the peripheral nerves than are the periodic glands. A man may be as hungry as a famished wolf without thinking of food. Loud sounds may strike upon the waking ear, or vivid and remarkable objects upon the retina, without exciting attention, if the attention is deeply absorbed in other matters. Nevertheless, the brain may and constantly does act in sympathy with the state of the peripheral nerves; and the normal waste and repair of the brain is constantly, although not solely, influenced by the impressions made upon the nerves of general, special, and functional sense. This independence of the brain upon those nervous irritations and impressions, which doubtless impart to

it the first stimulus to functional activity, but which subsequently exercise a permissive, rather than an imperatorial influence—this independence was needful for the preservation of mental health. The brain has its own laws, and is no abject dependent upon the sensations. Had it been otherwise, sanity would scarcely have been possible, and man would have been the puppet of every mean circumstance, the reasoning automaton of wind and weather. The moral law could for him have had no existence; and his thoughts, feelings, and actions must have followed as the necessary consequence of the latest sensory impressions. Sensations are, in the first instance, needful to excite the mental functions into activity. Without the stimulus of sense, the infant cerebrum would remain devoid of ideas and emotions, an inert mass like a lung, perfect in structure, but into which air has never been admitted. But once excited to action and supplied with ideas, the brain is no longer dependent upon the organs of sense. It can act without them or against them, employing its energies upon the provision of ideas stored in the memory, and by its own emotional and instinctive habits.

In connection with this subject are the interesting cases which have been observed by Dr Batty Tuke, in which the *portio mollis* was found after death to be diseased in a patient who had suffered from hallucinations of hearing, and in another patient in whom disease localised in the neighbourhood of the olfactory bulbs was seen by the same careful observer where hallucinations of smell existed.

Pathology of Monomania.—Every one conversant with the phenomena of Insanity is aware that there are patients in whom the aberrations from mental soundness are limited in the range of objects to which they apply, and the nature of subjective faculties which they implicate. In many instances of this kind, an enduring perversion of the modes of thought, the foundations of belief, and the workings of emotion on one, or at least on a few objects, are the well-recognised symptoms of that form of disease which systematic writers treat of under the head of Monomania. It would be incorrect to say that in the purest cases of Monomania none of the faculties are weakened; since the simplest hallucination or delusion proves a want of healthy energy in the perception or the judgment. But as a whole, and outside the morbid subject of opinion and feeling, the mind is not manifestly weakened. Moreover, the general health of

such patients is excellent; and if they die of any acute intercurrent disease, no pathological appearances are observed in the brain. To account for the perverted opinions and emotion of such patients upon the principles advocated in these pages, is a more difficult task than in the more numerous cases in which existent pathological change can be demonstrated in the cerebral organ itself, or reasonably inferred from the accompanying symptoms. Considering the healthy activity of the mental functions most implicated in Monomania, on subjects outside the circle of delusive opinion; considering the unimpaired state of the bodily health, so frequent in these cases; and lastly, considering the frequent absence of pathological appearances in the brain after death; it is impossible to attribute the mental phenomena to active processes of disease existing in the cerebral organs. But, inasmuch as all perverted function must be dependent upon abnormal states of the material organ; inasmuch as many instances of the kind under consideration originate in the ordinary causes of morbid change, and are accompanied during the early part of their course by the ordinary symptoms of cerebral disease, and as they sometimes, though rarely, give way under the influence of time and moral treatment; it is certain that these mental perversions are dependent upon abnormal states of the brain; an explanation of which these conditions of functional perversion with apparent health of the organism appear capable, being that afforded by the establishment of a habit of cell-growth and nutrition in the mould or type impressed by a previous state of diseased action.

A morbid process of some kind or other establishes a certain irregularity in the cell development, and impresses upon the intimate structure of the organ an abnormal habit of nutrition, which endures after the pathological factors have been removed.

The physiological habit or constitution of the whole body is frequently altered by an attack of acute zymotic disease, which has, nevertheless, left behind it no legacy of determinate pathological change.

That which takes place in the body at large is by no means uncommon in its most important organs; and an irregular habit of functional activity is a frequent legacy of disease in the stomach, kidneys, and uterus. This habit depends upon a peculiar arrangement of cells, or mode of cell-growth, impressed by diseased processes, and continuing in the same mould or type after these processes have ceased.

This explanation of diseased function arising from physiological growth, taking place in a pathological mould or type, has been admirably elucidated in Sir James Paget's second lecture on 'Surgical Pathology.' He says:

"The last condition which I mention as essential to healthy nutrition is a healthy state of the part to be nourished.

"This is indeed involved in the very idea of assimilation which is accomplished in the formative process, wherein the materials are supposed to be made like to the structures among which they are deposited; for unless the type be good the antitype cannot be.

"When any part or constituent of the body has been injured or diseased, its unhealthy state will interfere with its nutrition, long after the immediate effects of the injury or disease have passed away. Just as in healthy parts, the formative process exactly assimilates the new materials to the old, so does it in diseased parts; the new formed blood and tissues take the likeness of the old ones in all their peculiarities, whether normal or abnormal; and hence the healthy state of the part to be nourished may be said to be essential to the healthy process of nutrition.

"After any injury or disease by which the structure of a part is impaired, we find the altered structure, whether an induration, a cicatrix, or any other, as it were, perpetuated by assimilation. It is not that an unhealthy process continues; the result is due to the process of exact assimilation, operating in a part of which the structure has been changed; the same process which once preserved the healthy state maintains now the diseased one.

"Yet, though this increase and persistence of the morbid structure be the general and larger rule, another within it is to be remembered; namely, that, in these structures, there is usually (especially in youth) a tendency towards the healthy state. Hence, cicatrices, after long endurance, and even much increase may, as it is said, wear out; and thickenings and indurations of parts may give way, and all again become pliant and elastic.

"I can hardly doubt that herein is the solution of what has been made a hindrance to the reception of the whole truth concerning the connection of an immaterial mind with the brain. When the brain is said to be essential, as the organ or instrument of the mind in its relation with the external world, not only to the perception of sensations, but to the subsequent in-

tellectual acts, and especially to the memory of things which have been the objects of sense, it is asked, How can the brain be the organ of memory, when you suppose its substance to be ever changing ? Or, how is it that your assumed nutritive change of all the particles of the brain is not as destructive of all memory and knowledge of sensuous things, as the sudden destruction by some great injury is ? The answer is, because of the exactness of assimilation accomplished in the formative process. The effect once produced by an impression on the brain, whether in perception or intellectual act, is fixed and there retained; because the part, be it what it may, which has been thereby changed, is exactly represented in the part which, in the course of nutrition, succeeds to it. Thus in the collection of sensuous things, the mind refers to a brain, in which are retained the effects, or rather the likenesses, of changes that past impressions and intellectual acts had made. As, in some way passing far our knowledge, the mind perceived, and took cognisance of, the change made by the first impression of an object acting through the sense organs on the brain; so afterwards it perceives and recognises the likeness of that change in the parts inserted in the process of nutrition."

All that Sir James Paget says respecting the physiological growth of brain upon the pathological type of disordered sensation, will fully apply to the same growth on the type of disordered emotion; and his views afford an admirable basis for a rational explanation of partial Insanity occurring in persons in whom, during life, there are no physical phenomena of diseased brain, and in whom, after death, there are no pathological appearances in the organ of mind.

To resume—the theory we propound of partial Insanity, without appreciable change of the brain, is as follows :—When the disease first exists, it is attended by pathological states of the cerebral cells and vessels. A morbid condition of the cerebral organisation is occasioned, attended by the phenomena of Insanity. After a short time the vessels recover their tone, the brain is nourished, and its size maintained as a whole. But the original balance of its organs is not regained; their nutrition having been impressed in the type or mould of their diseased state. Perhaps some of the cerebral organs encroach on others by their actual bulk; undoubtedly some of them overbear others by their greater activity. The result is chronic mental disease, of a nature which leaves behind no pathological appearance.

Account of Special Pathological Changes.—It has been unfortunate for the advancement of cerebral pathology, that those early writers who have devoted much care to the observation of cerebral changes presented in *post-mortem* examinations, have either lacked the desire or the opportunity to make themselves acquainted with the mental phenomena which had preceded death. The careful and minute detail of appearances observed in the brains of persons supposed to have died insane, disconnected from any account of the symptoms which existed during life, are of comparatively little value, in the present imperfect state of pathological science. A few fossil teeth and bones enable Professor Owen to reconstruct the probable similitude of an extinct animal; but the science of pathological anatomy has attained far less certitude than that of comparative anatomy; and therefore such descriptions as those of the *post-mortem* examinations made in Bethlem by Dr Webster, have their practical value diminished from the want of some account of the symptoms which in each case preceded death. The descriptions of the older anatomists, Morgagni, Bonetus, and others, have the same defect; a defect, indeed, of which Morgagni was fully sensible, and of which he offers an explanation, or rather an excuse, in the fact that the medical men who had observed the cases, during life, frequently did not know whether to call the patient melancholiacs or maniacs. He says, "Melancholia is so nearly allied to Mania, that the diseases frequently alternate, and pass into one another; so that you frequently see physicians in doubt whether they should call a patient a melancholiac or a maniac, taciturnity and fear alternating with audacity in the same patient; on which account, when I have asked under what kind of delirium the insane persons have laboured whose heads I was about to dissect, I have had the more patience in receiving answers which were frequently ambiguous, and sometimes antagonistic to each other, yet which were, perhaps, true in the long course of the Insanity."—(*De Sedibus et Causis Morborum*, Epist. viii.)

Of the thirteen examinations recorded, Morgagni himself made eleven; his pupils made one; and the other one was made by Valsalva. The appearances noted by these great anatomists in this small number of dissections, include a large part of the morbid appearances which extended observation, and the advantages derived by latter anatomists from the instructions of those preceding them, have been able to distinguish. In one

or other of the cases, the dura mater was found thickened and adherent to the cranium; the vessels of the meninges distended with dark blood; serum was found between the meshes of the pia mater, sometimes in large quantity; there were also air-bubbles in the vessels of the pia mater; the consistence of the brain altered—sometimes soft, sometimes more or less hard; discoloration of the medullary substance, from distension of its blood-vessels; serum in the ventricles, sometimes clear, sometimes turbid; the choroid plexus in some cases injected, in others containing cysts; the vessels of the brain sometimes distended with black and fluid blood; in one instance the coats of the arteries were unusually firm (*quære* atheromatous). In one instance a fibrinous clot occupied the whole of the longitudinal sinus. This occurred in a young woman who died with general prostration of the vital powers. It is probably the earliest instance recorded of this appearance, and it is interesting in connection with Dr C. B. Williams' views on the formation of fibrinous clots in the cerebral sinuses of asthenic subjects.

Of the thirteen insane persons of whom the autopsies are recorded by Morgagni, it is remarkable that no less than four came to an untimely end. One threw himself out of a window in the night, and was killed. One was tied by the throat by his keeper, so that he was strangled. One was starved to death during severe weather; and one, after recovery from Insanity, died from inflammation of the intestines, occasioned by a finishing dose of black hellebore. It would appear from this that the liability of the insane to violent death was very great in those times.

Morgagni concluded that the cause of Insanity existed, in many cases, in the morbid changes of the pineal gland, and in many others in an induration of the brain. We are informed that, in his examination, he was in the habit of removing the head from the trunk, for the sake of convenience, before he examined the brain. This indicates forcibly the difference between the accuracy and delicacy of the examinations made by the greatest of the old pathologists and those of the present day. An examination conducted after this fashion would be little likely to offer evidence of moderate serous effusions, or the less obvious conditions of hyperæmia. The pathological records of Insanity made by other anatomists of the last century are still less marked by exact observation than those of Mor-

gagni, and are, perhaps, more interesting to the medical antiquary than to the modern pathologist.

A brief reference to them may, however, be instructive, as showing that many of the changes which still most readily catch the attention of observers were then noted.

Bonetus observed hypertrophy of the brain; obliteration of the sutures; the dura mater adherent to the cranium and turgid with blood; the pia mater turgid with blood, and not insinuated between the convolutions; water in the ventricles and other parts of the brain in large quantity; the substance of the brain marked with a black spot, and sometimes with an infinite number of bloody spots, especially on pressing it; in one case it was dry, hard, and friable.

Boerhaave mentions that the brain of maniacs has been found dry, hard, and friable, and of a yellow colour.

Haller classified the observations made by others upon the brains of insane and phrenitic persons, and concludes thus:—"From these few observations, for which we are chiefly indebted to Morgagni, but little certainty can be derived; since it not only frequently happens that we can discover no disorder in the bodies of maniacs, or even of such as have been totally insensible; but where we do, we are as far from being able to perceive an uniform connection between any one disorder of the mind and some corresponding preternatural state of the contents of the skull, that the very same appearances are exhibited after those most opposite disorders, idiotism and frenzy; which last seeming inconsistency may possibly appear less extraordinary if we consider the symptoms of drunkenness and frenzy, in which we may observe that the very same cause produces, at first delirium, and afterwards, as the disorder advances, drowsiness and insensible stupor. This, however, seems evident, that in the disorders of the mind the brain and its connections are usually affected; and *when, in some rare instances, we can discover no disease of these parts, we may conclude, either that it is seated in their very elementary particles, or has not been sought for with sufficient patience and attention.*"—('Elements of Physiology.')

Greding, in 216 cases, found the skull unusually thick in 167 cases; the dura mater adherent to the cranium in 107 cases; the pia mater thickened and opaque in 86 out of 100 cases of Mania; and beset with small spongy bodies in 92 out of 100 cases. He observed effusions of serum between the dura and

pia mater in 120 out of 216 cases of Insanity, and in 58 out of 100 maniacal cases; the lateral ventricles were distended in 52 cases. The choroid plexus was found healthy in only 16 out of 216 cases of Insanity; and it was thickened and full of hydatids in 96 out of 100 maniacs.

These records will convey strongly the impression, that however exact the observations of this pathologist might have been, he did not interpret the morbid appearances as we are accustomed to do at the present day. Effusions of serum between the dura mater and the pia mater, and diseased conditions of the choroid plexus, are conditions which need some description to be intelligible.

Meckel remarked the increased density of the cerebral substance in the bodies of the insane.

Soemmering and Arnold confirmed this observation; and the latter expressed his conviction that Insanity was occasioned by the increased density of the cerebral substance, and of those parts of the brain by means of which the soul is connected with the body!

Portal declared that all mental diseases were the effects of morbid alterations in the brain or spinal cord. He enumerated a great variety of alterations, but with so much inaccuracy that little reliance can be placed upon his descriptions. He enunciated, however, on this subject, the following sound and philosophical doctrine, which, to the present day, may well serve as a text for labourers in this difficult and obscure department of pathology:—*Morbid alteration in the brain or spinal marrow has been so constantly observed, that I should greatly prefer to doubt the sufficiency of my senses, if I should not at any time discover any morbid change in the brain, than to believe that mental disease could exist without any physical disorder in this viscus, or in one or other of its appurtenances.*"

Pinel had no confidence in the revelations of pathological anatomy. In the preface to his excellent work on 'Mental Alienation,' referring to the labours of Greding he remarks:—"But although one must eulogise his efforts to throw new light upon the organic affections of the insane, is it possible to establish any relation between the physical appearances manifested after death, and the lesions of intellectual function which have been observed during life? What analogous varieties does not one find in the skull and brain of persons who have never shown any sign of aberration of mind! And, therefore, how can we

succeed in fixing the limits which separate that which is norma from that which must be held to be the result of disease?" (Preface, p. xx.)

In the body of his work (p. 142) he refers the primitive seat of Mania "to the region of the stomach and intestines, from whence, as from a centre, the disorder of the understanding is propagated by a species of irradiation. A feeling of constriction, &c., manifests itself in these parts, soon followed by a disorder and trouble of ideas."

Well might Gall exclaim, in reference to these opinions of the great reformer of the treatment of Insanity, and to the opinions, scarcely more philosophical, on the same point, of Pinel's eminent pupil and successor, Esquirol:—"It is a sad business that, in writing for men who ought to have the clearest ideas upon mental disease, it should be necessary to commence by establishing the true seat of Mania;" and he adds that Fodéré actually undertakes to prove that the brain is neither the seat of inclination, instinct or mental power, much less of Mania or delirium. ('Sur les Fonctions du Cerveau,' tome ii, p. 223.)

In justice to Pinel it should be remarked, that, however mistaken his views upon the pathology of Insanity may have been, they had at least the merit of referring a bodily disease to a bodily origin. In the preface to the second edition of his work, he thus wisely expresses an emphatic condemnation of metaphysical theories on this point:—"The most difficult part of natural history is, without doubt, the art of well observing internal diseases, and of distinguishing them by their proper characters. But mental alienation presents new and diverse difficulties and obstacles to surmount, either in the unusual gestures and tumultuous agitations which it occasions, or in a kind of disordered and incoherent chatter, or in a repulsive or savage exterior. If one desires to account for the phenomena observed, one has to fear another rock—that of intermingling metaphysical discussions and the divagations of ideology with a science of facts."

Esquirol, the pupil of Pinel, adhered with affectionate pertinacity to the opinions of his great master. He states, in the 'Dictionnaire des Sciences Médicales,' that the principal changes observed in the brains of insane persons are—"The cranium frequently thick, sometimes eburnated, sometimes with thickness of the diploë, very frequently injected, more rarely thin, its thickness variable in different regions; the dura mater adherent either to the vault or to the base of the cranium, sometimes

thickened, frequently its vessels developed and injected; the internal face of the dura mater clothed with a membraniform layer, as if the fibrine of effused blood had extended itself in the form of a membrane. Almost always between the arachnoid and the pia mater serous or albuminous effusions are found, which cover and almost efface the convolutions. Effusions at the base of the brain are common; they exist almost always in the ventricles."

In M. Esquirol's great work, 'Des Maladies Mentales,' published so recently as 1838, his opinions on pathology are considerably modified. Referring to the case of a recent maniac, who was killed by one of her companions, and in whose body he and his pupils were surprised to find no lesions of the brain or its meninges, he declares, that "pathological anatomy, in spite of the very important labours of MM. Foville, Calmeil, Bayle, Guislain, &c., has not been able to make us acquainted with the organic cause of Mania. Thirty years ago, I would willingly have written upon the pathological cause of madness. At the present day I would not attempt a labour so difficult—so much of incertitude and contradiction is there in the results of the necroscopy of the insane made up to this time. But I may add, that modern researches permit us to hope for ideas more positive, more clear, and more satisfactory."

M. Foville describes in acute cases injection of the pia mater existing to a greater or less extent, according to the degree of inflammatory action in the cortical substance. In chronic cases, he describes opacity and thickness of the membranes, adhesion of the membranes to each other, granulations of the pia mater, and false membranes. The grey substance, he asserts, is, in acute cases, intensely red on its surface and in its substance. This redness is most vivid in the frontal and vertical region. The redness is not uniform, but mottled and diversified with spots of a violet hue, and with minute extravasations of blood. He describes the consistence of the cortical layer underneath its surface as diminished, the surface itself being somewhat indurated. In acute cases, the pia mater, he says, is not adherent to the cortical substance, while in chronic cases it is frequently so; and in this fact he sees an important distinction, capable of explaining the incurability of chronic mental disease. In chronic cases, the superficial or outer layer of the cortical substance becomes indurated and capable of being separated from the inner layer, which is softened and mammillated; the outer layer is harder,

the inner layer is softer; the outer layer browner, and frequently paler, the inner layer redder than natural. Atrophy of the convolutions he also describes as frequent; and this may be confined to the cortical substance, the surface of which is marked with irregular depressions filled with serum. The grey substance is sometimes softened throughout its thickness, and changed to a brownish colour; the softening of the grey matter is sometimes so great that it may be washed off the white matter (which is sometimes harder than usual) by pouring water upon it. The medullary substance is frequently injected, showing numerous bloody points when divided; sometimes it is more uniformly discoloured, and has a purplish hue; sometimes it becomes exceedingly white and indurated; sometimes, however, when indurated, it has a yellowish or grey tinge. Induration of the medullary substance is attributed by M. Foville to the adhesion with each other of the several planes of the fibres, of which he believes the mass of the white substance to be composed, and which are united to each other by fine cellular tissue.

These observations of M. Foville, made partly at the Salpêtrière and partly at St Yon, are highly important and instructive. They agree, in many respects, as we shall hereafter see, with the researches of M. Parchappe; and although in some respects it may be difficult to verify their correctness in the *post-mortem* rooms of institutions where but a few cases are examined, it is certain that the leading features of the pathological changes in the substance of the brain, which were first indicated by M. Foville, are to a greater or less extent recognisable in a great number of bodies, and amply deserve full and patient investigation, in order to establish their nature and their connection with the various forms of Insanity.

The researches of Bayle and of Calmeil have reference rather to a particular form of Insanity, namely, General Paralysis, than to the pathology of mental disease at large. M. Bayle attributes Insanity to inflammatory irritation of the membranes of the brain, and paralysis accompanied by loss of mental power (dementia), to pressure exerted upon the brain by effusions resulting from this inflammatory state.

M. Calmeil attributes Insanity in general to a chronic inflammation of the brain, and General Paralysis in particular to a "périencéphalite chronique diffuse."

M. Lélut, who published in 1836 his work upon 'The Value of Cerebral Alterations in Acute Delirium and Insanity,' came to

conclusions opposed to those of the authors last mentioned. He sums up the result of his researches as follows :

"1stly. Numerous alterations of the brain and its envelopes are met with in delirium and Insanity, especially in extreme forms of the latter ; but these alterations are neither constant nor exclusive.

"2ndly. Hence it must be allowed that the more or less local and coarse alterations in the skull, the brain, and its membranes, cannot be held to be the proximate causes of Insanity. They are, doubtless, capable of existence with a delirious or insane condition, but they do not constitute this condition ; and frequently they are only the exaggeration, the effect, or the transformation of it.

"3rdly. That which may be given as the nearest approach to the proximate cause of delirium, and to the most acute form of Insanity, is inflammatory lesion of the brain and its tunics. But this alteration neither does nor can constitute the state which is anterior to it, and may even destroy life without producing it.

"4thly. The conditions of the brain which approach most closely to the proximate cause of the chronic forms of mental alienation, with or without impairment of motion, are without doubt chronic inflammation of the substance and of the membranes of the brain, its atrophy and induration, which may be accompanied by variations in its specific gravity. But yet these alterations are not the proximate cause of these forms of Insanity, because they are neither constant nor exclusive, and they do not make themselves apparent except in an advanced period of the disease."

The arguments by which M. Lélut arrives at these conclusions appear almost as shifting as the organic lesions which are, and are not, according to him, the cause or the condition of Insanity. Inflammatory lesions of the brain are, according to him, very near being the cause of acute Insanity ; but they are not the cause, because they may destroy life without producing Insanity. Chronic inflammations also approach closely to the cause of chronic Insanity (les conditions du cerveau qui se rapprochent le plus de leur cause prochaine) ; but yet they are not the proximate cause, because they only make themselves obvious after a while.

Some years subsequently to the publication of M. Lélut's book, another eminent French physician, M. Leuret published a

work on the same subject. The title of this work, 'The Moral Treatment of Insanity,' would lead us to expect views adverse to the somatic origin of mental disease; and such, in fact, is the case. Physicians who treat Insanity with penal remedies are not likely to regard its cause as a pathological condition of the organism; and, on the other hand, physicians who refuse to regard Insanity as a bodily disease, and who interpret its phenomena as manifestations of a fermentation in the spiritual essence, easily and logically persuade themselves that sharp penal remedies are useful and justifiable in its treatment.

M. Leuret certainly combats the somatic theory, and the pathological facts upon which it rests, with a logical acumen contrasting very strongly with the manner of the author last mentioned, and even of M. Esquirol. While we entirely dissent from his conclusions, we are glad to avail ourselves of his assistance to ascertain the weak points of that doctrine which attributes Insanity to cerebral change alone; a doctrine of the truth of which we are convinced, but the evidence of which needs to be multiplied, confirmed, and arranged, with a care and precision which it has not yet received. M. Leuret believes that he has established the following propositions.

1st. That the authors who believe it possible to establish an anatomical change as the cause of Insanity differ greatly among themselves; thus, Greding asserted that thickness of the bones of the cranium occurs in 77 out of 100 patients, while Haslam found this condition in 10 only out of 100 patients. Hyperæmia of the brain is recorded by Parchappe in 43 cases out of 100; and by Bertolini only in 14 out of 100.

2ndly. That some of the cerebral alterations (to which Insanity is attributed) are by no means well established. Thus, in the cases which are cited of hypertrophy in the brain, it ought to have been established that this was not owing to fulness of its vessels, or to the presence of a serosity in its tissue. These observations have not been made. Again, that which is called a dense brain, or a soft brain, expresses nothing distinctly, except in extreme cases.

3rdly. That the value attributed to certain alterations is deduced from a number of observations by far too small, so that one result frequently invalidates another; thus, M. Parchappe has deduced the average normal weight of the healthy brain from thirteen observations on men, and nine upon women, and upon this average he establishes the rule

for atrophy of the brain. This average is evidently too small, and indeed M. Parchappe gives different averages elsewhere.

4thly. That the pathological alterations referred to Insanity are met with in patients who have never been insane.

5thly. That all authors confess that there are insane persons in whose brains no pathological changes are found.

6thly. That the lesions which are frequently met with among the insane, to which any value can be attached, are only met with in cases in which Insanity has been complicated with paralysis; and that in order to decide if any lesion is the cause of Insanity, it is at least necessary to find it in a case of simple mental aberration, in which there has been no affection of motion or sensibility.

That so able an opponent of the somatic theory, as M. Leuret undoubtedly is, should have been compelled to rest his arguments upon no better foundations than those above named, appears to afford strong presumptive evidence of the truth of that theory. We shall make some brief comments upon each of his objections.

1st. That authors should differ so greatly in their estimate of pathological changes, as M. Leuret has shown them to have done, can prove no more than that they have been inexact in their observations, or careless in recording them. The objection may to some extent be valid against the value of statistics in pathological science. It may show that one observer counted slight appearances of change, while another only recorded extreme instances; but it can in no way detract from the value of the fact, that all the authors cited did observe the pathological changes they have recorded, in a number of cases.

2ndly. That pathological changes of the brain need to be observed with greater exactness than heretofore is undoubtedly true. They have, however, been observed with greater exactitude than M. Leuret admits; for instance, in the case he cites, hypertrophy, it is well established that in this rare condition the brain is paler and drier than usual, and that the increase in its volume cannot be attributed either to fulness of the vessels or to serous infiltration.

3rdly. This objection again applies to the statistical method of proof, as it is too frequently used. It applies, however, to the abuse of this method in all departments of pathological science. Doubtless, those who count observations without estimating them as recommended by Morgagni, misuse the

numerical method in their deductions upon all diseases, Insanity included.

4thly. If M. Leuret could show that serious pathological change in the cortical substance of the convolutions has existed in persons whose mental functions have never been affected, he would go far to upset the somatic theory of the nature of Insanity; but this he has not done, nor, in our opinion, is he likely to do. That some pathological changes which are observed in insane persons, but which are non-essential to Insanity, should occur also in persons who have always been sane, is a fact of no value in the present discussion.

5thly. That in the brains of some insane persons no pathological changes are observable by existing means is not to be denied; but it would not, in these cases, be more philosophical to doubt, with M. Portal, the sufficiency of our powers of observation than to use them as an argument against the existence of all pathological change of an organ whose functions are perverted, but whose structure is not obviously injured. Is M. Leuret able to point out the pathological changes which cause neuralgia, tetanus, chorea, or hysteria, or those by which life is destroyed by a blow on the epigastrium, or by concussion of the brain? Deficient information should lead us to seek for more light, and should by no means induce us to veil that which we possess.

6thly. M. Leuret certainly mistakes the fact, when he affirms that cerebral lesions are only found in those insane persons who are paralysed, for whatever doubt may hang over the primary pathological changes which attend the earlier stages of simple mental aberration, there can be no doubt whatever that the secondary conditions which attend the chronic stages of simple Insanity, uncomplicated with paralysis, are undeniably obvious in degraded nutrition and atrophy of the cerebral organ.

M. Guislain, who for many years was the able leader of psychology in Belgium, classed the lesions of the brain found in Insanity under nine heads: 1st, a state of sanguineous congestion of the meninges, of the brain, or of the two together; 2ndly, a state of serous congestion of the same; 3rdly, cerebral softening; 4thly, opacity and thickness of the arachnoid; 5thly, adhesions of the membranes to each other, or to the brain; 6thly, cerebral induration; 7thly, cerebral hypertrophy; 8thly, cerebral atrophy; 9thly, vices of conformation of the brain and of the skull.

These conditions are, he thinks, in a practical point of view, capable of being reduced to four fundamental alterations—sanguineous congestion, serous congestion, softening and induration. It is open to doubt, however, whether the three latter of these alterations can be considered fundamental; and it is certain that the four do not include all the conditions which may be considered fundamental. He does not include those aberrations of nutrition known under the names of inflammatory, atrophic, and anæmic.

That M. Guislain admits the existence of such conditions, is abundantly evident from the pages that follow. At page 367, 'Leçons Orales,' tome i, he attributes to the state of congestion, not only ecchymoses of the arachnoid and pia mater, but false membranes, and a red appearance of the arachnoid, "having the aspect of an inflamed conjunctiva."

Such an appearance, and especially the existence of false membranes, cannot be attributed to a state of congestion, and if they occur, should have induced this able physician to have admitted the inflammatory, as one of the fundamental states of the brain in Insanity.

He estimates that, in one fourth of the bodies of persons dying insane, there is a congestionary state of the encephalic mass; but he declares his opinion, that this proportion is far from that which obtains among the living insane, and that the majority of those who are cured have never had congestion of the brain in a notable degree.

M. Guislain says, "The brain and its membranes may have been congested without the existence of a state which can be called inflammatory. If inflammation were always a condition of congestion, would one see the numerous cures which take place among sanguine and robust maniacs, who offer in the course of their disease those symptoms which one often considers to be inflammatory, and which are really only a vascular orgasm, and not a state of phlegmasia? Broussais himself felt this in giving to this condition the name of subinflammatory. It is an influx of blood, which may in a manner be compared to that injection of the cheeks which accompanies shame and modesty; that injection which makes itself evident in the eyes, over the whole face, the neck, and even over the breast of a man agitated by violent anger."

It is evident, however, that a much more profound and serious change exists in the blood-vessels of the insane brain, than in

the transitory blush of modesty or the suffusion of passion. These states are physiological, and leave behind them no tendency to destructive change. The state of the congested brain in Insanity is pathological, tending to pass into a state of structural change, and respecting the wide deviation of which from a state of health there can be no doubt. If the congestion of Insanity were of the character which M. Guislain attempts to attribute to it, Insanity would be as transient as passion, or passion would be as dangerous as Insanity.

M. Parchappe.—The most careful investigations into the pathological anatomy of Insanity, made in France, are, without doubt, those of M. Parchappe, the Inspector General of Asylums in that country. His first work on the different alterations of the brain in Insanity was published in 1838. M. Parchappe commences by admitting fully, "That there is no single pathological alteration which can be proved to exist in all cases of Insanity; but there are three which have been found in the majority of cases. This is a result which might have been expected. The pathologists who have searched for one essential characteristic pathological change, might have saved themselves a deception. . . . . The point which one may reasonably hope to attain to is, to be able to distinguish among cases of mental diseases those kinds which are characterised both by the constancy of the symptoms, and by that of pathological change." In M. Parchappe's opinion, the uncertain recognition of pathological alterations in Insanity, and the occasional absence of all appearance of change, disprove, indeed, the theories of those who attribute Insanity to some exclusive pathological condition of the brain—for instance, to chronic meningitis, or to induration of the brain—but they do not prove that these alterations are, as asserted by Esquirol, Leuret, and others, mere complications or consequences of the malady. The alterations which exist in simple inflammation of the brain and its membranes, are not those which are found in Insanity. Those which are found in Insanity may be distinguished into—1st, those which may be considered accidental; 2nd, those which, existing in other maladies, yet appear to play a part in the production of Insanity; and 3rd, those which are believed to be essential to mental alienation. Among the first may be enumerated cerebral hæmorrhages, partial softening of the white substance, disease of the cerebral arteries; and, among the second, thickening and opacity of the arachnoid, hyperæmia of

the pia mater and of the brain, serous infiltration of the pia mater, and dropsy of the arachnoid cavity. In the important last division, this author includes the following changes: subarachnoid ecchymosis, and a partial punctiform injection of the cortical surface, with or without softening, extended softening of the middle portion of the cortical substance, adherence of the pia mater to the surface of the brain; rose, lilac, and violet coloured discoloration of the cortical substance, loss of colour of the cortical substance, atrophy of the convolutions, induration of the brain. M. Parchappe believes that he is able to establish the following classification of mental disease upon the pathological changes which he has observed. 1st. Monomania; in this form of Insanity, no pathological change is found to exist in the brain, and the probable cause is to be sought in the organic predominance of some portion of the brain, in consequence of its size or activity. 2nd. Acute Mania and acute Melancholia; in these forms of Insanity, the alteration found in the brain to a certain extent resembles those of inflammatory affections of the organ. They are hyperæmia of the pia mater and of the cortical substance, partial injections of the subarachnoid tissue, punctiform injection, and occasional softening of the cortical substance; it is rare that the meninges are found extensively thick and opaque. The above alterations are usually more decided in acute Melancholia than in acute Mania. In sympathetic Mania, that is, in Mania occasioned by the irritation of some part of the distal nervous system, no anatomical changes may be discovered if the examination is made during the early period of the disease; but after a while, the brain passes from the state of physiological excitement into that of pathological change, and then the above alterations may be expected to be found on examination. 3rd. Simple chronic Mania; in this form of Insanity, the aspects of the brain are altogether different from those which prevail in the acute paralytic forms of Insanity; they are—atrophy of the convolutions with loss of colour and induration of the cortical substance, or of the medullary substance, or of both; serous infiltration of the pia mater, and dropsy of the ventricles, connected with, and consequent upon, general atrophy of the brain. 4th. Paralytic Insanity (general paralysis). In this the essential alteration consists in softening of the middle layer of the cortical substance; very frequently, also, the pia mater is thickened, adherent, and infiltrated; in the acute form, the cortical sub-

stance is hyperæmic and deepened in colour, and the pathological appearances of acute Mania are present. In the chronic form, the cortical substance has lost colour and become thin; atrophy of the convolutions, and the appearances of chronic Mania are present. 5th. Epileptic Insanity. In this the alterations resemble those of simple chronic Mania.

In 1841, M. Parchappe published his 'Theoretical and Practical Treatise upon Insanity,' a work more fully devoted to necroscopic record than Andral's 'Clinique,' or Lallemand's 'Letters.' M. Parchappe attempts to establish his deductions by the numerical method; and in this we think he has fallen into an error; first, because the number of cases upon which he founds his averages are, under some heads, insufficient to establish a trustworthy average; secondly, because he has, in several instances, adopted methods of comparison which are open to much objection. The manner in which he arrives at an estimate of cerebral atrophy is objectionable, on account of both of the reasons above given. He founds his estimate upon a comparison between the weight of the brain examined and the average weight of healthy brains. Now it is evident that, if the diseased brain has originally been heavier than the average, a considerable atrophy might fail to be shown by a comparison of this kind. An atrophied brain, of large size, may still be heavier than the average of healthy brains.

M. Parchappe's average weight of the sane brain may have been deduced from average individuals; but he could make no selection of this kind for the other side of the comparison. The insane person whose brain has to be examined and compared, may have been a well-developed man, with all the organs above the average size, or with a brain originally large or small in comparison with the rest of his body. So true is the addition which Morgagni made to the dogma of Hoffmann, "*Ars medica tota in observationibus.*" Morgagni wrote, "*sed perpendendæ sunt non numerandæ observationes.*"

In the *résumé* upon thirty-eight autopsies of persons dying in the *acute stage* of Mania and Melancholia, M. Parchappe (p. 45) affirms the same principles which he has enunciated in his former work, especially the absence of any essential and exclusive encephalic alteration. He affirms, moreover, that these dissections prove the existence of an analogy as strong as possible, if not perfect, between the cerebral alterations found after acute Mania and those of acute Melancholia; and therefore

he concludes, that the distinction between these two states is not justified upon pathological grounds.

The thirty-eight examinations afford the following *résumé* :— In thirty-six the brain was the seat of hyperæmia, either in its periphery, its membranes, or its substance ; in seven instances the hyperæmia was simple ; in twenty-nine it assumed the form of subarachnoid ecchymoses ; in twenty-three instances there were subarachnoid ecchymoses, with punctiform injection of the cerebral surface ; and in seventeen of the latter there was also softening of this surface. Sixteen times the cortical substance was reddened in colour. In one case there was no apparent encephalic alteration whatever ; and in several the alterations were inconsiderable. It is needful, therefore, to admit that the pathological condition of acute Insanity is of such a nature that it is possible for it to leave no naked-eye appearance of change. Taken singly, none of the alterations described can be held to express a pathological state of the brain which corresponds to the abnormal psychical manifestations ; but examined collectively, these alterations afford an idea of the pathological character which must be attributed to that state—namely, that of hyperæmia. This condition was only absent in two cases out of the whole thirty-eight ; and it is very probable that hyperæmia also existed during life, even in the two cases in which there was no trace of it after death. The thickening of the meninges, and the superficial softening of the cortical substance, which are so frequently found, would also indicate that this hyperæmia is not that of simple but that of active congestion.

"A legitimate induction may, therefore, be derived from the fact," says this author, "to the effect that there is usually, during life, an active sanguineous congestion of the brain coexisting with the symptomatic phenomena of acute Insanity." "One may even recognise, up to a certain point, a relation between the intensity of the symptoms during life, and the extent of the alterations after death."

Of chronic Insanity, M. Parchappe details the appearances of 122 cases, which may be summed up as follows :—In seven instances there were no alterations, or almost none ; in eleven instances the alterations were simply hyperæmic ; in five the two substances were softened ; twice there was induration of the true cortical substance alone ; eight times there was induration of the white substance alone ; twenty times there was induration

of the two substances; sixty-one times there was atrophy of the cerebral convolutions; sixty-four times there was hyperæmia, which was simple in forty-six cases, and in eighteen combined with ecchymoses, and in two cases with injection and softening of the cortical substance. This substance was coloured red five times. It was deprived of its [normal ?] colour fifty-nine times.

It is evident, says M. Parchappe, from these facts, that there is no essential and characteristic pathological appearance in chronic Insanity. There may be no trace of pathological change after death, or only the unimportant one of simple hyperæmia. But the alterations are remarkably different from those which belong to acute Insanity. In the latter, the predominant alterations are hyperæmic conditions, with arachnoid ecchymoses, injection and softening of the cortical substance. In chronic Insanity, the predominant alterations are atrophy of the convolutions, and induration of the two substances. "The symptomatic differences in the two forms of Insanity correspond generally with the pathological differences in the organ of intelligence." In chronic Insanity, the predominant state is pathologically opposed to the hyperæmic condition of acute Insanity; and the atrophy of the convolutions, especially, expresses a movement of the plastic force opposed to that which represents active hyperæmia. "The predominant alterations in chronic Insanity express, in general, a state of diminution of the plastic activity; a state diametrically opposed to that expressed by the predominant alteration in acute Insanity, which has been shown to be active sanguineous congestion, representing the physiological principle at the highest point of plastic activity. And these conditions of the organism coincide with the psychical symptoms peculiar to the two forms of disease which present two opposed dynamical states—the one in which psychical activity is in a plus and the other in which it is in a minus condition."

M. Parchappe concludes his valuable treatise with a chapter upon the appearances of the healthy brain. From an early period of his investigations, he had instituted comparative examinations of sane and insane brains, having both before his eyes at the same moment. On this point he says:

"I have thus been able to assure myself how inexact is the assertion frequently made, that between two brains of this kind, it is absolutely impossible to distinguish that which belongs to Insanity. The contrary assertion would be much nearer to the

truth, especially if one did not make it without some restriction. In regard to paralytic Insanity, at least, it may be said, that the difference strikes the eye, and can only be mistaken by prejudice or inattention."

He sums up the characteristic appearances of the sane brain as follows :—" Extreme tenuity and perfect transparence of the arachnoid, and of the pia mater. Absence of subarachnoid serous infiltration. The membranes may be detached from the convolutions without producing decortication. When the cortical substance is soft, and the membranes begin to become dry, it may happen that, in circumscribed points, they detach with themselves flocculi, and even small plates of the cortical substance. The cortical substance is of a grey colour, of which the shade varies a little in different individuals, and in the same individual in different parts of the thickness of the substance. To the naked eye the shade of the surface does not appear paler than that of the deeper parts. The internal portion is, perhaps, a little deeper in colour, and between the two we can sometimes distinguish an intermediate shading, paler than either. The medullary substance is of a pure and striking whiteness. The consistence of both substances is considerable when the death has been recent and the temperature moderate. The white substance is rather more firm than the grey. The surface of the ventricular membrane is smooth and brilliant, sometimes offering very fine granulations. The cut surface of the white substance is sometimes dotted with a small number of red points. Under the influence of the air, the blood in the vessels becomes more brilliantly red, and the cortical substance takes on a rosy tint, which gradually becomes deeper, but which never attains the intensity which characterises pathological alteration of colour of this substance. The influence of time and a high temperature, produces softening and commencing putrefaction, and causes the detachment of flocculi with the membranes, like that produced by the drying of the membranes from contact with air. The convolutions are pressed together, only offering space for imbedding the pia mater; and when the membranes are removed they still touch, and if separated, they return to their apposition on account of their elasticity, and the anfractuosities efface themselves. The thickness of the cortical substance varies in the anterior lobes from two or three millimeters, and on the convexity, and at the base, from two and a half millimeters to five."

The eminent author we have here freely quoted, has done excellent service to the cause of a rational pathology of mental disease. He has excluded all speculative hypothesis upon the nature of mind and its aberrations, and has set a worthy example to his successors in the careful and laborious manner in which he has observed and recorded the facts upon which alone any trustworthy knowledge in this as in all other departments of science can be founded. We are far from agreeing in all particulars with M. Parchappe, but to the spirit of his inquiries, and to his general results, we give our hearty adherence. These results, however, require to be accepted with some limitations and exceptions; and, as we hope hereafter to show, many additions to them must also be made, to present a correct general idea of mental pathology. It is, however, no small praise to an author to affirm, as may with truth be done of M. Parchappe, that no candid investigation, even into his errors and deficiencies, can be made, without advancing the science of which he treats.

The principal error in which M. Parchappe appears to have fallen is that of having made too abrupt a classification of Insanity into acute and chronic. The phenomena of the disease by no means justify a distinction of this kind so sharp and sudden as to lead to M. Parchappe's assertion, that the two forms of the disease present pathological conditions essentially opposed to each other. Doubtless the pathological appearances presented in a typical case of each form will sometimes contrast with each other as remarkably as he insists; but a large proportion of cases of Mania and Melancholia have never been acute; and a large proportion of cases which are unquestionably chronic in point of duration, present at intervals, all the symptoms of acute disease, and after death present an intermixture of those pathological conditions which M. Parchappe has described as opposed to each other from their very nature. Nothing is more common than for an atrophied brain to suffer from temporary hyperæmia. It is a pathological law, that injured and ill-nourished organisms are liable to sudden congestions, almost in proportion to the amount of deficiency in their nutrition. Hyperæmia is moreover peculiarly liable to take place in the atrophied brain in consequence of the loss of external support which the organ has sustained by shrinking away from the cranium. The lengthened, tortuous, and dilated vessels of the pia mater, in atrophied brains, indicate the frequency with which they have been in a hyperæmic state.

The form of mental disease which destroys life in the early period of its course is comparatively rare, and has been thought by many modern writers to be a distinct form. The French alienists of the present day call it *Délire aigu*, and distinguish it from recent Mania and recent Melancholia. In the brains of persons who have died while suffering from this form of Insanity, the strongly marked characteristics of hyperæmia of the substance and the membranes, even to the subarachnoid ecchymoses described by M. Parchappe, undoubtedly exist. But in the recent cases of Mania and Melancholia of most frequent occurrence, if death were to occur from some accidental cause or intercurrent disease, which did not interfere with the state of the cerebral circulation, it is by no means so certain that strongly marked signs of hyperæmia would be found to exist. In many cases of recent Mania, indeed, a condition of the brain the very opposite of hyperæmia, is known to be the condition of disease, both from the nature of the cause, the effects of the remedies, and the *post-mortem* appearances, when chance has afforded an opportunity for observation. The fact, that all the symptoms of acute Mania frequently arise, and continue throughout the course of an exhausting bodily disease, which leaves every individual organ, the brain included, in an ill-nourished and anæmic state, affords irresistible evidence that the phenomena of acute Insanity must in many cases coexist with a state of the cerebral organ, the very reverse of hyperæmic. The rapid formation of ideas is so remarkable a symptom in acute Insanity, that M. Parchappe, in common with M. Falret and others, considers it as a proof that the psychical activity is in a state of exaltation; and he, logically enough, infers that the plastic activity of the organ of which psychical activity is the function, must also be in a state of exaltation, or, as he expresses it, in a *plus* state. This however, is not unconditionally true. Doubtless, in some cases, and for a short time, active hyperæmia of the brain, attended by a rapid nutrition and decomposition of its substance, and accompanied by quick-flowing ideas and fancies, may be the condition of Acute Mania, as it is the condition of cerebral excitement in the early stage of intoxication. But it is an error to suppose that a rapid flow of ideas is always a sign of that psychical activity which depends upon an exalted state of cerebral nutrition. There is an idea-forming activity which resembles palpitation of the heart from weakness; and ideas frequently flow

through a debilitated brain in rapid succession, because the mental impression made by each of them is feeble and transitory. Doubtless they follow a certain train, but this is of the most desultory kind, because the organ answers to the faintest touch. The Germans have a curious term for this impressive and remarkable condition of the mind. They call it *Ideenjagd* (idea-hunt). It is a hunt in which there is nothing hunted; or, like the chase of the ocean billows, where the old are ever vanishing and the new arising, without evident purpose or end.

Griesinger.—We may fitly conclude this account of the opinions entertained on this subject by eminent French psychologists by giving the summary with which the great professor of Berlin concluded his instructive chapter on the Pathology of Insanity.

"Keeping in view the great and well-constituted results, negative as well as positive, and altogether excluding rare and more isolated observations, we shall attempt in the following paragraph to compare the various states of psychical diseases with the anatomical conditions which most frequently correspond to them."

"*Acute Insanity.*—As in a considerable number of cases of Acute Insanity the brain, on anatomical examination, appears perfectly healthy; it must, in the present state of science, be assumed that the symptoms very often depend upon simple nervous irritation of the brain, or upon disorders of nutrition which are as yet unknown.

"When palpable disorders exist, they consist chiefly in anæmia with more or less serous infiltration, or (more frequently) in hyperæmia of the entire brain, and particularly in simple and ecchymotic hyperæmia of the delicate membranes and cortical grey substance. These hyperæmias appear sometimes to produce, and at other times merely to accompany, other morbid processes of nutrition which lead to further consequences.

"This hyperæmia is frequently accompanied by thickening and opacity of the membranes, the result of chronic stasis. This may, in certain cases, proceed from the same causes as the hyperæmia itself; in others, however, it may be the result.

"There is no constant distinct anatomical distinction between Melancholia and Mania; the disorders in both forms are, nevertheless, not entirely identical.

"In Melancholia the brain appears perfectly healthy, more

frequently than in Mania; when an anatomical lesion exists, it does not consist in hyperæmia so frequently as in Mania, but rather in anæmia with greater consistence of the cerebral substance or with more or less serous infiltration.

"Mania presents more rarely than Melancholia no lesion or simple hyperæmia. The hyperæmia is more profound and more intense (sometimes attaining to an erysipelatous hue of the entire cortex), and it more frequently proceeds to inflammation and softening, which affect the cortical substance in only certain layers, sometimes the middle, sometimes the external layer. The rapid occurrence of extended softening of this kind frequently corresponds to a state of profound Dementia which precedes death. The intense hyperæmias which accompany or produce the softening appear partly to determine the violent maniacal excitement. Frequently, also, when the Mania is of long standing, there is found pigmentation of the cortical grey substance.

"*Chronic Insanity.*—Cases in which no anatomical lesion is found are here rarely observed; the same may be said of simple hyperæmias. Opacity and thickening of the membranes are common (much more so than in acute Insanity).

"Many cases present lesions which are never observed in the former class; viz. atrophy of the brain, particularly of the convolutions, chronic hydrocephalus, effusions into the subarachnoid space, pigmentation of the cortical substance, extended and profound sclerosis of the brain. Here, softening is not so frequently met with in the superficial cortical layer as pigmentation, superficial induration, and adhesion of the pia mater; all in very various degrees.

"In these states, but, perhaps, also in the acute stages, slight superficial inflammations of the ventricular walls must necessarily be of frequent occurrence. The granular condition of the ependyma and the frequent adhesions of the ventricular surfaces demonstrate this.

"When the disease reaches the chronic stage, hyperæmia ceases; when it does exist, it is of the nature of hyperæmia *ex vacuo;* sometimes the more or less atrophied brain is anæmic and œdematous. All the changes in the brain are less indicative of active processes than of consecutive states and residues of former processes, and of marasmus corresponding to the character of the symptoms observed during life.

"Between partial Dementia and Dementia there is as little

difference, anatomically, as between Melancholia and Mania; still, generally speaking, considerable atrophy of the brain corresponds to a condition of profound mental weakness. The reverse, however, does not hold good.

"We arrive at the following general conclusions:

(*a*) Insanity, whether acute or chronic, may be the result of simple abnormal excitation or nutrition of the brain, without the existence of any palpable change.

(*b*) In the majority of cases this is not the case; it depends upon palpable diseases which are generally distinct in proportion to the duration of the Insanity. These consist partly in hyperæmia and inflammatory processes, which, as a rule, are first observed in the pia mater and cortical substance, penetrate to various depths of the cerebral substance, and, if not arrested, terminate in incurable destruction and atrophy of the cerebral substance, a lesion to which the group of symptoms of Dementia corresponds.

(*c*) Frequently, however, it is non-inflammatory changes in nutrition, recognised only in their final results—viz. marasmus of the brain, which corresponds to the serious secondary forms. The initiatory periods and stages of development of these nutrient changes, which correspond to the primary forms as yet are uninvestigated. To these processes we may give the name of *atrophic irritation of the brain.*

(*d*) Our knowledge of symptoms is not yet so far advanced as to enable us to state with certainty whether in a given case of Insanity, anatomical changes exist, and where they are situated; but the facts which we observe enable us to speak with as much confidence as we can in any other disease of the nervous system.

(*e*) The most important circumstance in regard to anatomical diagnosis and prognosis is the existence or non-existence of *severe motory disorders,* in particular of general progressive paralysis." (Griesinger on 'Mental Diseases,' Robertson and Rutherford's translation, pp. 432, 434.)

Since the second edition of this Manual was published, a great advance has been made in the investigation of the normal and morbid histology of the brain. This work is difficult and special, and requires great industry, skill, and devotion to its pursuit. It is not every one that has the organic capacity to use a microscope thoroughly well. If every one could do so

as easily as he can look through an opera glass, pathological anatomy would make rapid strides; but it is not so, and, perhaps, the astronomer's great instrument requires less skill and use than that of the modern pathologist. And when the armed vision has been educated, the great qualities of judgment to criticise and determine what is seen, and of faithfulness to record it, are imperatively demanded. These conditions being given and opportunites found, we may confidently trust the microscopist in observations where we can follow him with the reason though not always with the sense. That different microscopists differ so much from each other and even from themselves is but a proof that they pursue a most difficult art. Thus, His who first discovered the lymphatic canal surrounding the cerebral vessel is, now that others are beginning to see and describe it, the first himself to give it up. This space, as Dr Batty Tuke observes, is visible in animals who have died with anæmic brain, and invisible in those whose brain is congested. The changing conditions of these fine observations are but beginning to be known and appreciated. The author of these pages has not had the good fortune to become a skilful microscopist. Perhaps he may be permitted to say that he pursued the microscopic investigation of morbid brain until irritation of the retina imperatively forbade its continuance, and that he ever regards this physical incapacity as no slight misfortune. In the meanwhile others have been working in this new field of research, Lockhart Clarke, Bastian, Moxon, Allbutt, Kesteven, Rutherford, and others; but of all these we venture to say that no one has more skilfully and devotedly used great opportunities than Dr Batty Tuke, of Edinburgh, who was the first histologist in this country who systematically examined prepared specimens of the brains of persons dying insane, and it is with complete confidence that we have coufided to him the difficult and responsible task of laying before our readers the present state of knowledge as to the histology of the insane brain.

We trust that this original contribution from Dr Batty Tuke will bring the pathology of our subject up to the present date of correct knowledge, but, because histological investigation has advanced, we shall not omit the due consideration of naked-eye appearances. These, of late, it has been the fashion to depreciate with as much philosophy as a child shows when he breaks his old toy because he has a new one; and we entirely disagree with Dr. Blandford when he states that all the records of former

autopsies made with the naked eye are so much waste paper. In our opinion naked-eye appearances must ever be the common foundations of pathological knowledge, and the triumph of cerebral histology will occur when it has taught us to recognise with the naked eye what condition of the tissues we should find with the microscope. As well might the naked-eye appearances of the lungs, the stomach, or the kidney be discredited because the microscope has taught us to understand them. Moreover, there are naked-eye appearances which stand by themselves as most important facts to which it is possible that histological research will hereafter add greater value. It may or it may not do so, but in the meanwhile they have an intrinsic value, which it would be mere pedantry to ignore. Take, for instance, the naked-eye appearance of abscess of the central white matter without affection of the mind, and contrast it with the naked-eye appearances of the meninges and cerebral cortex which are never seen without mental disturbance. Are the records of such facts mere waste paper? Histology has taught us and will teach us much, but we venture to think that even in the brain, and certainly in the body at large, naked-eye appearances have taught us more. Let us worship the rising sun with rational devotion and not act like "the idiot who takes his bauble for a God."

Our own Pathological Observations.—We shall, therefore, now describe the naked-eye appearances which we have ourselves observed in the dissection of the bodies of the insane.

On making the examination, it is our custom to note the size of the bony frame, measured by the length of the body and its breadth across the shoulders and hips. This affords a much better standard with which to compare the size of the head and weight of the brain, than that afforded by the weight of the body, which has been adopted for this purpose by some pathologists. The weight of the body varies so greatly between the obesity of Dementia and the emaciation of Mania and Melancholia, that the standard it affords is most untrustworthy.

Careful observation, however, should be made of the state of emaciation or obesity; also of any bruises, or bruise-like marks; any bed-sores or deformities. The features, after death, generally lose all expression characteristic of mental disease. The examiner is frequently surprised at the regularity of feature and placidity of expression in countenances which, to the last

hours of life, had been disfigured by the peculiarities of insane physiognomy. Even the heavy and the relaxed features of General Paralysis are braced up after death, and return to their normal expression. Often have we felt that we have never seen the sane expression of a patient's face until after his death.

The Scalp and Cranium.—The dimensions and form of the cranium should be noted. Although we believe that in the insane the average dimensions of the head are below those of the sane, when the comparison is obtained by the examination of large numbers; still, in a great number of instances, they will be found to be good; and, indeed, the head is frequently not only large but phrenologically well shaped.

We are not aware in what proportion of the sane the shape of the head is peculiar, since it is rare that opportunities occur for making exact observations upon them; but among the insane a considerable proportion present decided peculiarities in the shape of the cranium. The most frequent one is a want of symmetry between the two sides. One side is rather flatter or smaller than the other; or the whole cranium is pushed over a little to one side; or one side is a little more forward than the other; or the two anomalies coexist, giving the cranium a sort of twisted appearance. These things will not be seen unless they are looked for, with accurate and careful eyes, upon the shaven scalp.

Sometimes the skull is high and dome-like; more frequently it is as if it had been compressed laterally, and elongated from before backwards—keel-shaped, in fact, like the skulls figured by Dr Minchin, in the 'Dublin Medical Journal,' in which the centres of ossification of the parietal bones are increased in number. Sometimes the forehead is preternaturally flat, narrow or receding, or very large and bulging; or the occipital region is deficient, and the back of the head rises in a straight line with the nape of the neck. Sometimes the skull has a remarkably square configuration. The square and the carinated form of skull we have most frequently seen in connection with Mania; the dome-like and high vertical skull, and also the unsymmetrical skull, most frequently in Melancholia. In Mania, the anterior cranium is more frequently of good shape and size than in Melancholia. In the latter the forehead is often small and mean, but sometimes it is disproportionately large and globose. The shape of the head as it ought to be according to the rules

of phrenologists, can only fairly be expected to coincide with the mental symptoms, in those somewhat rare instances in which Insanity is the mere development in excess of natural character; and in some such instances we have found the shape of the head tally, in its general outline, with the indications of phrenology.

Occasionally, depressions are found in the outer skull, which sometimes do, and sometimes do not, correspond with the bulging in of the inner table of the cranium. When they do not so correspond, we have found that they indicate a local absorption of the diplöe.

It is an interesting question how far the shape of the skull alters in Insanity. If the forehead expands, even in mature age, under the influence of intellectual development, it is likely that it will contract under the influence of intellectual decay. Some writers have asserted that the shrinking of the brain in atrophy is commonly, and to a considerable extent, followed, and the cranium filled, by a flattening and shrinking of the cranial bones. (See Paget's 'Lectures on Pathology.')

Rokitansky also affirms that atrophy of the brain frequently gives rise to deposit of bone on the inner table of the skull, especially about the anterior convolutions.

We have not satisfied ourselves that the increased thickness of the cranium which is frequently met with in the insane, is in any way connected with atrophy of the brain. Some of the thickest and heaviest craniums which we have met with, have occurred in instances in which there was little or no cerebral atrophy; and the condition of the cranium where there is undoubted atrophy of the brain, is not unfrequently one of abnormal tenuity.

In pursuing the examination, the state of the ears and of the scalp should not be overlooked. The sanguineous tumour of the ear peculiar to the insane, and the shrinking of this appendage consequent upon such tumour, are noteworthy objects of attention. These tumours, for the most part, occur in the worst and most hopeless cases; but it is an error to suppose, as some authors have done, that they occur in such cases only. We have not only seen patients recover after the ear has been shrivelled up by the contraction subsequent to sanguineous tumour, but we have seen several patients labouring under quite recent Insanity, in whom a shrivelled ear led to the information that a curable attack had been undergone many years pre-

viously, an attack which had been followed by perfect mental sanity of considerable duration.

The scalp is sometimes full of blood, sometimes marked with scars and contusions, telling of blows and falls. In old cases of Mania it is sometimes remarkably loose upon the cranium.

The cranium itself is frequently altered from its normal condition. When thicker and heavier than usual, it is also soft and full of blood. The eburnated cranium, which is at the same time thick, dense, and devoid of blood, has not been found by us in the bodies of those dying insane. In recent cases, the only abnormal condition to be expected in the cranium is its discoloration from excess of blood. This is often evident, not only at the margin where it has been separated by the saw; but also over the whole extent of its inner surface, after the dura mater has been separated, it often presents a mottled, but decided discoloration, from sanguineous congestion.

In chronic cases, the skull-cap is sometimes thicker than usual, congested with blood, and soft in its texture; sometimes thinner than usual throughout, or partially. In the latter case the thin portion usually occurs in the parietal region, in which the diploë frequently disappears to such an extent that the skull becomes diaphanous. The thin diaphanous skull is met with in all stages, but most frequently in cases of very chronic Mania and of Dementia, in which the patient has not been subjected to temporary attacks of cerebral hyperæmia. On the other hand, a thick and heavy cranium is mostly met with in cases of chronic Insanity, which have been subject to attacks of congestion, or *hyperœmia e vacuo*. The cranium is often strongly marked by indentations produced by the Pacchionian bodies. Not unfrequently, also, the crista galli is elongated and enlarged; and in epilepsy the protuberances of the sella turcica are enlarged, and the marks of the convolutions are sometimes more strongly impressed, especially in the middle fossæ.

Exostoses, or spiculæ of bone, growing either from the vault or the base of the cranium, have been exceedingly rare in our autopsies. In 400 examinations of persons dying insane, including a large proportion of epileptics, we have only found a cranial exostosis in three instances. The dura mater is frequently found adherent to the cranium. In old cases, indeed, it is rare to find that this membrane separates from the cranium with its usual facility in adults. The degree of adhe-

sion which exists in chronic Insanity varies, from that which can scarcely be called abnormal, to such a close and intimate union, that on the application of force the membrane splits into layers, rather than part from the bone, from which its fibres cannot be separated except by hard scraping. In acute cases, the dura mata is sometimes discoloured by sanguineous congestion.

The Dura Mater.—Recent anatomists discard the old view, that the inner polished surface of the dura mater is a reflection of the arachnoid. It certainly cannot be demonstrated by the scalpel, that any serous membrane lines the dura mater; and the idea of a parietal arachnoid appears to have been due to the exigiencies of systematic anatomy, rather than to the evidence of demonstration. We adopt the view that there is no parietal arachnoid, and that the polished surface is actually part of the dura mater. This polished surface is not unfrequently the seat of exudative processes in the insane, although it is rare to find in this locality exudations of a true fibrinous character, the results of undoubted inflammation; notwithstanding the assertion of Rokitansky that the surface of the brain and the skull being bound together by a series of successive normal and false membranes, is a "termination of meningitis frequently found in mental disease, especially in cases of secondary imbecility." Notwithstanding this high authority to the contrary, we must assert, that adhesions between the cerebral arachnoid and the dura mater are extremely rare in the bodies of persons dying insane. On the upper part of the brain we have never met with the state of things referred to by this author. The nearest approach to it that we have met with in this region has been the connection of the dura mater with the thickened arachnoid and pia mater, by means of several ligamentous bands, the condensed and organised remains of very moderate fibrinous exudation. In two instances, we have met with adhesion of the substance of the brain and its intervening members to the dura mater, along the petrous portion of the temporal bone; and in one instance, along the ridges formed by the alæ of the sphenoid. It is an occurrence of much greater frequency for the polished surface of the dura mater to be the source of an exudation not fibrinous, and not tending to contract adhesions. These exudations are very remarkable, and by different authors have hitherto been generally regarded —either, when much coloured with blood-pigment, as instances of

sanguineous effusion into what was considered the sac of the arachnoid, or as false membranes arising from arachnoidal inflammation. That instances of these latter conditions are not very unfrequent, renders it the more needful to distinguish the peculiar exudation to which we refer. It resembles a layer of red-currant jelly spread over the dura mater. On examination there appears to be an extremely fine cellular network, containing in its meshes an albuminous fluid substance, coloured with blood-pigment. Sometimes the exudation extends to the temporo-sphenoidal fossæ. Sometimes it is confined to this locality. Virchow has, quite recently, announced its nature to be that of a colloid tumour, flattened into the resemblance of a false membrane by its position. We adhere to the belief that it is an albuminous exudation, containing a small proportion of fibrine, and coloured with blood-pigment. Sometimes true hæmorrhage is found on the inner surface of the dura mater. On the appearance of this as a layer, Rokitansky observes, "Those extravasations which have been supposed to be collections of blood between the serous and fibrinous layers of the membrane, with the exception of a few cases in which a small effusion has raised its innermost layer, must have been extravasations into the sac of the arachnoid, which, after acquiring an adhesion to the dura mater, have become encysted." (Vol. iii, p. 323, Sydenham Society's Translation.)

In many instances of chronic Insanity, and of recent Insanity in which there had been a previous attack, we have found the dura mater in the temporo-sphenoidal fossæ changed to an orange-yellow colour—not uniformly, but as if freckled. Doubtless this discoloration was due to the blood-pigment of reabsorbed hæmorrhages or exudations; and it points, like the other changes so common in this membrane, to the frequent existence in Insanity of one period during which the appendages of the brain are in a hyperæmic state prone to hæmorrhages, and to albuminous or albumino-serous exudations, coloured with dissolved blood-pigment. The coloured exudations above referred to seem to us to bear a close resemblance to the exudations of blood-coloured serum which take place between the cartilages of the ear, and to be owing to the same crasis.

Sometimes the structure of the dura mater is found to have undergone osseous metamorphosis. We have never observed this occurring in the tentorium, where comparative anatomy would lead one most to expect it. We have, however, found it

in the falx cerebri. Exostoses of the inner table of the skull probably have their origin in the dura mater. We have only once found a true tumour of the dura mater. This was as large as a filbert, pressed upon the pons, and was accompanied by epilepsy. Its structure was fibro-cellular, and it contained an abundant quantity of cholesterine in large plates.

The Arachnoid.—We have never found a state of undoubted inflammation presenting the appearance of the inflamed conjunctiva, as described by Guislain. In a few cases of acute Mania and Melancholia, we have observed the appearances of ramiform congestion; but it may be doubted whether this was not due to the underlying vessels of the pia mater. Doubtless, in some cases, the hyperæmia in the capillaries of the arachnoid amounts to actual stasis, otherwise the fibrinous false membranes, and the adhesions which are sometimes observed in it, would scarcely exist. A frequent change of this membrane, found in persons dying insane, is thickening with opacity. "The arachnoid tissue," says Rokitansky, "is opaque, dull like whey or milk, tumid and white, and it has the appearance and density of tendon." Often this change is limited to the arachnoid covering the convolutions of the vertex; sometimes it is restricted to that part of it which corresponds to the sulci, leaving the part which covers the convolutions thin and transparent. Patches, however, of very decided thickening with opacity are occasionally found on the anterior convolutions of one or other hemisphere. The changes observed in the vertical region are rarely one sided, or even greater on one side than on the other. What does thickening with opacity of the arachnoid indicate? According to the above author, the "changes frequently discoverable in this membrane can be attributed only to congestion, or to slight and passing attacks of inflammation." "Opacity and thickening of the arachnoid are very common *post-mortem* appearances. After middle life a moderate degree of them is almost constantly found, and their absence is the exception; for, at that period, every one must have been exposed to repeated congestions of the brain and its inner membranes." (Op. cit. p. 329.) The change here referred to as being so common is, although the same in nature, greatly less in degree than that commonly found in the bodies of persons dying insane. It is merely an opalescence as compared with decided thickening and opacity like a thin slice of the boiled white of egg. The frequently repeated congestions to

which Rokitansky refers this change in the sane, exist in much greater force and frequency in the insane, and give rise to a corresponding intensity of this pathological change. It appears not to be so much the result of inflammation even of "slight and passing attacks," as of congestion. In nature it closely resembles those opaque patches so frequently found upon the visceral pericardium. Its character is that of albumino-fibrous deposit, forming one link in the chain of degenerative change, which passes according to its locality, into atheroma or into fat.

In connection with the arachnoid are the Pacchionian bodies, absurdly called glands. These Rokitansky regards as granulations of the arachnoid, rarely indeed altogether absent, but depending for their development upon the same repeated congestions which render the arachnoid itself thick and opaque.

Luschka, however, has recently shown that these bodies are normal as to their existence, and pathological only as to their hypertrophy. He calls them *arachnoidal villi*, and refers the genetic cause of their growth to "the disturbances of the circulation which attend the natural involution of the organism in old age. In consequence of the impeded motion of the blood, a modified transuuation must take place, which (in our ignorance, it must be confessed of its precise nature) we regard as the principal cause of the increased amount of nutritive material with which the arachnoid is supplied." ('Wedl, Sydenham Soc. Trans.,' p. 352.)

Now, in the insane of all ages, the Pacchionian bodies are frequently found to be greatly enlarged, so as not only deeply to indent the dura mater, but even to perforate it and to form for themselves reception-cavities in the parietal bones alongside the sagittal suture. Before the circulation has become impeded by the advance of age, they are prematurely produced in the insane by the impeded circulation of cerebral congestion, the frequent condition of mental disease.

The *ependyma* of the lateral ventricles and the arachnoid membrane in this locality we have frequently observed to be the seat of those puzzling bodies, the amylaceous corpuscles. This ependyma is described by Virchow as the uppermost layer of the fine connective tissue, the neuroglia or nerve cement, which binds together the foundation masses of the brain. Be this and the arachnoid of the ventricles identical or not, it is certain that the walls of the lateral ventricles present, in chronic

Insanity, and especially in General Paralysis, a peculiar and frequent change. They appear to be covered with fine sand, or rather to be converted into the resemblance of fine shagreen; a change due to a nodulated deposit of fibro-albumen.

The arachnoid of the ventricles also becomes more thick, dense, and tough; a change which is obvious in the septum lucidum, which in the early stages of General Paralysis, and in the later ones of chronic Mania, becomes a toughish and resistant membrane, instead of retaining the exquisite delicacy which renders its demonstration so difficult in health.

Griesinger remarks the frequent occurrence of dilatation of the lateral ventricles in the insane, occurring in the great majority of cases with diminution of the cerebral mass, and more or less disease of the ventricular surface, and he considers that most frequently it is merely the necessary result of atrophy of the brain. In very few cases can it be considered the primary process and fundamental cause of the symptoms by paralysing the mental faculties through the pressure it exerts. Every small dilatation of the ventricles, however, must not be considered abnormal.

The Pia Mater—tender mother of the brain and its wondrous offspring of thought and passion—is far more closely and intimately related, both in health and disease, with the organ to whose more noble parts it supplies nutriment, than either of the other meningeal wrappings. The pia mater is more than a mere investing membrane; it is more than a subserous connective tissue of vascularity greater than is common to such parts. It is a vascular plexus, so loose and large in its ramifications as obviously to suggest the idea that its construction is subservient to rapid and great changes in the blood supply of the convolutions. What the submucous vascular layer of the stomach is to the function of digestion, the pia mater appears to be to the higher functions of the brain; and it is more than probable that active thought or intense emotion causes in it hyperæmia as sudden, frequent, and transitory, as the function of digestion gives rise to in the vascular layer of the stomach. One part of this plexus, or rather an appendage to it, the choroid fold within the lateral ventricles, has a structure analogous to, if not identical with, erectile tissue. Upon this resemblance an ingenious writer in the 'Dublin Quarterly Journal of Medicine' has based his theory, that sleep in the normal state, and epilepsy in the

abnormal state, are dependent upon a turgid or erectile condition of this apparatus, by means of which a gentle but general pressure is exercised from within upon the whole substance of the brain. With regard to epilepsy, there are insurmountable objections to this theory; but the very existence of such a structure, in connection with the pia mater, increases the probability that frequent turgescence of this membrane is a physiological state. "There is no question," says Rokitansky, "that congestion of the pia mater is a very frequent occurrence." "Yet, if we except the *post-mortem* congestion of the pia mater covering the posterior lobes of the cerebrum, any considerable degree of congestion is far less commonly met with in the dead subject than is supposed; and there is, perhaps, no respect in which moderation in estimating appearances needs so much to be impressed upon the unpractised observer, as in regard to the quantity of blood contained in the vessels of the pia mater. As a general rule, a very moderate injection of these vessels is erroneously looked upon as congestion." The terminations and consequences of these congestions vary, according to the frequency and duration of their cause. They consist of thickening and condensations (increase of volume) of the pia mater and arachnoid, of permanent infiltration of the former, and a varicose condition of its vessels. Such a state of the inner membrane is well marked after the congestions which are produced by continued and forced exertion of the mind, or by repeated intoxication, especially by alcoholic drinks." (Op. cit. pp. 339 and 340.)

Thus, we learn from this great pathologist the frequency of congestions of the pia mater; their causation by two of the common causes of Insanity, mental overstrain and drunkenness; and lastly, the difficulty which exists in recognising, after death, the existence of a pathological degree of this frequent occurrence. The same difficulty exists in the tissue to which we have compared its functions, namely, the submucous vascular layer of the stomach. In both these instances, this difficulty of *post-mortem* recognition arises from the same cause. A moderate degree of congestion is in neither instance pathological. Congestion only becomes so when its degree or frequency tends to produce structural change. The last moments of life are commonly passed in a state adverse to the continuance of congestion, unless they are attended by such difficulty in the respiratory movements as to impede the return of the venous

blood to the heart, and hence a state of congestion which may have existed in the pia mater, even up to a short time before death, may have left no traces discernible after that event.

The exudations of the pia mater in mental disease, are not of the organisable, fibro-albuminous kind. It is rare even to find them opaque, either from partially coagulated albumen or from fat. Even when the arachnoid is thickened and opaque from exudations of this kind, those of the pia mater are remarkably limpid and serous. Adherent false membranes are not found once in a hundred cases of persons dying insane; and even in these rare instances, their occurrence usually is traceable to a pre-existent inflammation, and is not to be considered as a condition proper to Insanity. According to Vogel, fibrinous exudations result mainly from the minute capillaries, whilst serous or hydropic effusions derive their source from the small veins. The plexus of vessels which forms the pia mater is venous in its anatomical character, and the serous nature of its ordinary exudates may fairly be thus accounted for.

Although fibro-albuminous exudates in the pia mater, and the false membranes and adhesions resulting therefrom, are so uncommon in Insanity, there is one form of adhesion of frequent occurrence in this membrane, namely, the slight but important adhesion between it and the grey substance of the convolutions. The plexus of vessels more or less infiltrated with serous effusion, is sometimes very readily separable from the grey substance which it invests. But in many instances it is not so. What are called adhesions, more or less intimate and extended, are found to have formed, so that sometimes over the whole extent of the convolutions, sometimes only in isolated parts, the convolutions cannot be divested of their vascular envelope, without small portions of the grey substance remaining adherent to it. In these instances there is no appearance of fibro-albuminous exudation into the pia mater; but it is probable that the cells of the grey substance, and their connective tissue, may have received an addition of fibro-albumen from the minute arteries and arterial capillaries in connection with the pia mater; an addition which may prevent the small vessels from being withdrawn from the soft substance of the grey matter with the same facility as in the normal state. Something, also, may be attributed to an increased toughness in the coats of the minute blood-vessels preventing facile rupture.

Congestion of the pia mater, and consequent serous effusion

into its meshes, is the constant result of atrophy of the brain. "When an empty space is formed within the skull by a reduction of the volume of the brain, it is filled up by an increase of the volume of the inner membranes of the brain, and especially by an extraordinary exhalation of serum into the tissue of the pia mater, the sac of the arachnoid, and the internal cavities of the brain, more particularly the lateral ventricles. These changes result from the congestion of the vessels which the vacuum produces." (Rokitansky, op. cit., p. 364.)

Thus arises the *Hyperæmia e vacuo,* the pathological condition of the very frequent cases of spurious apoplexy which occur among old and chronic lunatics—every attack of which renders the vessels of the pia mater more dilated and tortuous, and more disposed to the recurrence of the congestion. This may, and frequently does, concur with an anæmic as well as with an atrophic condition of the substance of the brain. In the healthy organ, congestion of the pia mater cannot occur without accompanying congestion of, at least, the grey matter of the convolutions; but, under the pathological conditions which attend atrophy of the organ, a sudden congestion of the loose and water-logged membrane frequently occurs, without affecting the anæmic and atrophic brain otherwise than by adding a temporary impediment to its functions by the sudden pressure.

To recapitulate:—The pia mater, in rare instances, is found to be the seat of fibro-albuminous exudation, and consequent adhesion. It is the very frequent seat of congestion, which may or may not be obvious after death. Frequent congestions enlarge and render its vessels more tortuous. They also result in a thin hydropic effusion—more rarely in a turbid albuminous one. Not unfrequently the membrane contracts adhesions to the grey matter of the convolutions, but without visible exudation of albumino-fibrine or false membrane. In cases of acute Mania and Melancholia, thin extravasations of blood, not larger than a finger-nail, occur in its tissue. Diffuse inflammation of the pia mater, and tuberculous infiltration and deposit, are extremely rare among the insane.

The pathological conditions of the choroid plexus are as obscure as its physiological purpose. It is not found hypertrophied in epilepsy, which it would be were the theory true which attributes the production of that disease to its turgescence. It often contains cysts analogous to those observed in the Malpighian bodies in Bright's disease; but whether the

frequency of these cysts is greater among the insane than the sane, there are no data to determine.

It is very remarkable to how great an extent the changes we have here described are confined to the vertical, parietal, and frontal regions, and how largely the base of the brain is exempt. Perhaps the gravitation of the organ has somewhat to do with this phenomenon, as it may also have to do with the deeper sulci of the bones at the base of the skull.

The Cerebral Substance.—The condition of the cerebral membranes, and, indeed, of all other parts, is, of course, in the pathology of Insanity, of secondary importance to the state of the substance of the brain itself. The condition of the cerebral substance is the prime question in the pathology of mental disease. Frequently this condition can only be judged of by the state of its blood-vessels, or can only be guessed at by that of its membranes, or some still more remote indication. Not unfrequently, in partial and sympathetic Insanity, it appears to be perfectly sound in structure, although the deductions of science assure us that this soundness is in appearance only, and is solely attributable to the imperfection of our means of observing and investigating.

The bulk of the brain varies from a state of atrophy, in which it has been known to lose nearly a third of its volume, to one of hypertrophy, in which, but for the restraining pressure of the unyielding cerebral walls, there is but little doubt that it would be not less augmented.

Cerebral atrophy, as the most frequent, is the most important of all changes in chronic conditions of mental disease. We have already written so fully on this subject, that our limits only permit a few further remarks. It is almost always accompanied by œdema of the pia mater, more or less general, by contraction of the convolutions, and widened sulci, and diminished thickness of the grey cortex, by altered colour, and by change of consistence in the grey and white matter, frequently by dilatation of the lateral ventricles, and in rare instances by a cribriform condition of the whole substance.

A considerable degree of cerebral atrophy is rarely unattended by changes in the colour and consistence of the brain substance, sufficiently obvious to the eye of the experienced observer. It is frequently both anæmic and discoloured; the grey substance contains less red and more brown; and its coloration, also, in depth of tint, varies greatly; sometimes its tint is deeper than

is usual in health, but far more frequently it is paler, and occasionally it is little more than a darkish buff colour.

On this point Mr Solly remarks, that having many opportunities of examining the brains of the insane at Hanwell, he made coloured drawings of the cortical substance of all patients indiscriminately; and he adds, "The general result of my observations was, that a pale condition of this ganglion was almost invariably found in patients who had sunk into a state of imbecility, and was generally associated with some serous effusion, and thickening of the arachnoid and pia mater." (Solly 'On the Brain,' p. 398.) The uniformity of colour of the grey matter, also, is lost. The grey layer of the convolutions consists of six planes, in which the white and grey substances alternately preponderate. M. Baillarger, in his memoir on this subject ('Mém. de l'Acad. de Méd., tome viii), states that it consists of six of these alternate layers. There can be no doubt that such layers exist; but the exact number of them is a question which has been much debated. In the normal state, a triple division is very obvious to the naked eye in the posterior convolutions of the cerebrum; and in a state of atrophy it becomes still more obvious throughout all the convolutions where it was previously not observable. This appearance arises from diminution in the quantity of the pigment-coloured cells in the whole of the cineritious layer. This diminution in the bands where the white matter exists in largest quantity, renders the colour of the latter very apparent. According to the statement of M. Baillarger, the external layer of the convolutions is white, and not grey. It would, we think, be more correct to say that the external layer contains a less proportion of vesicular neurine to the tubular substance with which it is intermixed, than the layer next but one to the surface, and again, than the layer next but one to that. The consistence of the grey matter of the convolutions is very generally lessened when the organ is atrophied. Sometimes the superficial layer is obviously softened, but more frequently the grey layer immediately under it is the seat of the greatest amount of softening. We may hope that Gerlach's observations on what has been called the bacillar layer of the cortex of the cerebrum will lead to an important increase of our knowledge of its pathological conditions.

The colour and consistence of the tubular neurine are often notably altered. Unlike the grey matter, its depth of colour is generally increased. From the clear white of health, almost

imperceptibly tinged with pink, it assumes a dirty brownish hue—very faint, indeed, but quite unmistakable.

The consistency and density of the white substance vary greatly. In the *Atrophia cerebri senium*, the consistence of the white matter is generally a little increased. In the *Atrophia cerebri præcox*, the consistence is increased whenever the primary condition of disease has been hyperæmia verging on phlogosis, and tending to the addition of albumino-fibrine to the substance of the brain. This is particularly the case in the atrophy which attends the later stages of epilepsy—an atrophy which is preceded by a period of congestive hypertrophy, and meriting the name which has been applied to it, of concentric hypertrophy of the brain, if such a term applied to any organ is not somewhat absurd. In atrophy not consecutive upon a congestive condition of long standing, but either primary or secondary to a state of general debility or dyscrasia, the consistence of the tubular neurine is diminished—sometimes to the extent of making it appear that the whole brain is infiltrated with serum. Rokitansky asserts that atrophy is accompanied by increased consistence and tenacity, or sclerosis, as it has been called. "The surface of a section of the hemisphere shrinks and becomes concave; and here and there certain portions offer more resistance than others, and wrinkle and lie in folds." The whole substance also, in rare cases, becomes porous, like Gruyère cheese, or rather like the substantia perforata of the normal brain in appearance, the *état criblé* of French authors.

When induration exists, it is in greatest degree in the neighbourhood of the lateral ventricles. The latter are generally enlarged and distended, with a very limpid effusion; and thus the bulk of cerebral substance is diminished, both from within and without. Sometimes the lateral ventricles are greatly contracted; sometimes they are of normal size. Andral states, that unless each lateral ventricle contains more than an ounce of fluid, it cannot be reckoned abnormally large.

It is unnecessary to refer, in this place, to the shrunken and pinched appearance of the convolutions, and the widely opened sulci. In not very unfrequent instances, the remarkable appearance of circumscribed atrophy affecting three or four convolutions, generally about the vertex, is presented. In such instances, the loss of bulk is replaced by a partial œdema of the pia mater, presenting the appearance under the arachnoid of a gelatinous bag. This partial atrophy of the brain has not

hitherto been connected with any peculiar loss of mental function calculated to add additional evidence to the arguments of phrenologists.

Atrophy of the brain rarely exists in any considerable degree without a notable *diminution of the breadth of the cortical grey substance of the convolutions*. The normal breadth of this substance we have ascertained, by numerous measurements, to be eight hundredths of an inch. In atrophied brains it is reduced to seven, and frequently to six hundredths. The reader will find in the table at p. 520 careful measurements of the cortical grey substance in the various forms of mental disease. These measurements were made with that form of compass which is called a hair-divider, and the hundredths of an inch marked off on a scale, the eye being assisted by a simple lens. Dr Major has used a graduated tube for this purpose, which he calls a tephrylometer, but we are informed that this instrument cannot be used without pressure on entering, and tractive suction on removal from the brain substance, and we think our own simple mode of measurement the most convenient and accurate.

The usual condition of atrophic brains, with reference to the state of the blood-vessels, is a degree of anæmia; but sometimes, owing to the circumstances of death, this condition is replaced by one of congestion, and the dirty white of the tubular neurine becomes mottled with a faint violet discoloration. This is especially the case when death occurs soon after severe convulsive attacks, or during the course of congestive apoplexy.

Cerebellum.—It is a remarkable fact, first noticed by Canzauvieilh, that atrophy of the brain is confined to the cerebrum. Even in extreme age, when the cerebrum is much wasted, the cerebellum retains its full size. Dr B. Tuke, however, has met with three cases of atrophy of the cerebellum, and in all three there were no symptoms at all. ('Journal of Anatomy and Physiology,' vol. vii.)

Hypertrophy of the brain is an interesting but rare form of pathological change. But for the pressure exercised by the unyielding walls of the cranium, the brain would doubtless undergo enlargement with every considerable degree of congestion which it suffers. It would enlarge like a congested liver, until like the liver it took on its secondary change and contracted in the state of scleroma or the allied state of cirrhosis. As it is, congestion of the brain constitutes one form of hyper-

trophy, of common occurrence contrasted with the true hypertrophy of the cerebral substance, in which the brain is anæmic, the vessels being emptied by the ever-increasing pressure.

In the bodies of persons who have died during the early period of epileptic disease, and of some who have died in the first stages of Mania, the brain appears too large for its case; the convolutions are flattened; the sulci cease to exist as indentations between the convolutions; lines only can be perceived in which processes of the pia mater dip. The vessels of the pia mater itself are distended with blood; the grey matter is deepened in colour; the white matter pinkish, or mottled with pale violet; and the cut ends of the vessel in it effuse an abundant quantity of *puncta sanguinea*. This is false or congestive hypertrophy. We cannot concur with Griesinger in the opinion that general hypertrophy of the brain has no connection whatever with mental affections, but, perhaps, he only meant to indicate that form in which it is an epiphenomenon on tumours, softening, and disease of the brain other than Insanity in any of its forms (op. cit., p. 425).

In true hypertrophy, the brain swells up when the cranium is removed, so that the latter cannot be replaced; the convolutions are flattened, the sulci obliterated; the arachnoid is transparent, thin, and dry; the pia mater is exsanguine; the grey substance very pale; the white substance pure white, with few traces of blood-vessels, dense and tenacious. As the change progresses, the mental functions, and especially the memory, become more and more feeble; but Dementia, to the extent which follows atrophy of the brain, rarely, if ever, supervenes. Epileptiform convulsions appear towards the close of the case, and usually supply the form of death. In a marked case which came under our own notice, epileptiform convulsions existed at intervals for more than six months before decease. The *post-mortem* examination displayed all the above appearances, with the addition of the remains of a sanguineous effusion, thin, old, and yellow, surrounding the crista galli of the ethmoid.

There have been many differences of opinion respecting the nature of this pathological change. Dr Handfield Jones, in an excellent paper on "Fibroid and Allied Degenerations," in No. 27 of the 'Medico-Chirurgical Review,' maintains that it is not a true hypertrophy. "It can hardly be thought," he says, "that a true hypertrophy existed, otherwise surely there would have been some apparent superiority of intellect. The truth

probably was, that there was just the ordinary amount of nervous matter, *plus* a certain quantity of interstitial exudation." Doubtless it is not a true hypertrophy in this strict sense of the term, *i.e.* the abnormal increase of normal structure; and although Rokitansky declares it to be "a genuine hypertrophy," he explains the meaning he attaches to this term; so that, according to its acceptance in this country, it would be excluded from the category. He says, "it consists as such (*i.e.* as a genuine hypertrophy), not in an increase in the number of the nerve tubes in the brain, from new ones being formed, nor in an increase in the dimensions of those which already exist, either as thickening of their sheaths, or as augmentation of their contents, by either of which the nerve-tubes would become more bulky. It is an excessive accumulation of the intervening and connecting nucleated substance." He attributes its occurrence to an excessive development of the lymphatic system, although he admits that its immediate cause may be congestion.

Dr Handfield Jones's test of a genuine hypertrophy appears, in this instance, fallacious, inasmuch as an increase of normal tissue may fail to confer increased power of function, if the new tissue is in a condition unfavorable to its activity—if, for example, it be subjected to pressure. Moreover, we have no knowledge leading to the belief that hypertrophy of the organic cells is inconsistent with a pathological condition, tending to interference with their function. An hypertrophied cell may be as much disabled as an atrophied cell. This particular kind of hypertrophy is seated in the parenchyma, being either hypertrophy of the *neuroglia,* or due to a slowly formed exudate of an albuminous or fibro-albuminous character, gradually pervading the whole of the cerebral substance. Either of these changes from the normal state, originating in some obscure vice of nutrition, may go on increasing until death from convulsions takes place, and the peculiar characteristics of cerebral hypertrophy are found. More frequently, however, the process undergoes an arrest and an inversion. The hypertrophied tissue, or the exudate pressing upon the normal tissue, and upon the blood-vessels, impedes the nutrition; this arrests the further progress of the hypertrophy, and a reverse movement takes place, tending to cerebral atrophy with induration. Such, we believe, to be the true pathology of a large class of epileptic cases—namely, of those in which the nutritive powers are at first in excess, the muscular system highly developed, the

functions vigorous, and the health robust, and in which there is an early tendency to maniacal excitement, gradually passing into the opposite one of Dementia. The cure of these cases is hopeless, but the relief afforded by early antiphlogistic treatment, moderate and prolonged, supports our view of their pathological character.

Inflammation, Congestion, and Anæmia of the Cerebral Substance.—Inflammation of the grey substance of the convolutions is, undoubtedly, an occasional cause of Insanity, although it cannot be admitted to be one of its conditions. According to the limitations of that most artificial of sciences, nosology, phrenitis is not Insanity, and does not belong to the speciality of the psychologists. The same may be said of cerebral hæmorrhage. The appearances and symptoms which primarily attend these forms of pathological change are, therefore, excluded from the present notice. But a brief reference cannot be avoided to the changes which they frequently undergo, attended by symptoms of undoubted mental disorder. One of the reliquiæ of inflammation of the grey substance of the convolutions is a chronic induration of the superficial layer; another is, that adhesion of this layer to the pia mater, which has been found by M. Parchappe so frequent in the insane; others are a softened condition of the middle layer of the grey substance; induration or atrophy of the whole of this substance; in some rare instances, entire loss of it by ulceration and absorption. When the functions of the grey substance have been deteriorated by these changes, the white substance of the brain wastes from disuse of function, as the optic nerve wastes in cerebral amaurosis, and thus atrophy of the whole cerebrum finally results.

Inflammation of the white substance of the brain is usually far more limited in extent than that of the grey substance. It is also a more chronic affection—destroying life, when fatal, by convulsions, low fever, pulmonary congestions, and gangrenous sores. Although, during its progress, the mind is always more or less disturbed, and actual delirium is frequent, yet it is a less frequent cause of Insanity in any of the acknowledged forms of the latter than inflammation of the grey substance. Parts of the brain which do not participate in the inflammatory action become œdematous, and others anæmic from the pressure of those parts whose bulk is augmented. This disturbance of pressure and of the blood-supply consequent thereupon, is

necessarily accompanied by disturbance of the functions of the organ, often to a greater extent than the *post-mortem* appearances explain, since the pressure of the different parts equalises itself after the process of inflammation has been arrested by death.

Cerebral Hæmorrhage.—The relation which this accident bears to Insanity is of the same nature, but less intimate than that which inflammation holds. Numerous instances of cerebral hæmorrhage occur without giving rise to any mental disorder; but, on the other hand, the processes of irritation and exudation, set up by a clot in the brain, not unfrequently do give rise to Mania, rapidly running into Dementia. In such cases the brain is found to be atrophied, and to contain clots or cysts, or cicatrices in the various stages of reparative or degenerative change.

When cerebral hæmorrhage is subsequent to atrophy, a remarkable modification of the usual symptoms of apoplexy may result. An enormous amount of blood may be slowly effused around the cerebral hemispheres, not only without the immediately fatal result which would occur if the hæmorrhage took place on a brain not atrophied, but without giving rise to urgent symptoms of cerebral pressure. Instead of exerting a fatal pressure upon the substance of the brain, the effused blood only displaces an equivalent quantity of serous fluid which finds its way from the cavity of the arachnoid and the meshes of the pia mater into the spinal bag. In the 29th vol. of the 'Medico-Chirurgical Review,' we have given the details of a case remarkably illustrating this statement. In this case a demented patient had an attack of apoplexy on the 29th of September, 1853, and he lived until the 7th of July, 1854. The *post-mortem* examination showed the remains of a sanguineous effusion, fibrinous and tough, which completely enveloped the cerebrum. It was situated in the cavity of the arachnoid, and over the vertex and sides of the brain was half an inch thick, and was the colour of venous blood. In the petrous fossa it was also thick, but had become yellow. It did not extend over the cerebellum, but the effusion from which it was formed, had found its way into the lateral ventricles, as those contained masses of dark-red fibrine; a thin layer, also, extended two inches down the spinal canal. Between the visceral arachnoid and the brain there was a large amount of serous effusion. The cranial cavity required 52½ ounces of water to fill it. The brain displaced only 37½ oz., so that the atrophy of the organ

was equivalent to 15 oz., or nearly one third of its normal bulk. Subsequent to the occurrence of the apoplexy, the patient lived a kind of vegetative existence, with the smallest amount of mental and animal function we ever saw in a living human being during so long a time. Probably a sanguineous clot of 15oz. is impossible between a healthy brain and its case, but if it were possible it would be utterly incompatible with the survival of life beyond a very brief period.

The small extravasations of blood often found on the surface of the convolutions in many cases of acute Mania and Melancholia, result from congestion of the pia mater. In some instances a dyscrasial condition of the blood may aid in the production of these effusions, as it does in the extravasations, which in the insane take place under the conjunctiva and between the cartilages of the ear.

Congestion is one of the most important conditions of the brain-substance, but of its appearance little can be written. Congestion of the grey matter is indicated by various shades of red, brown, and grey, of which the practised eye becomes cognisant. In recent and acute Mania a deeper red tinge prevails. In cases of longer standing, and where atrophy of the organ also exists, the deeper tinge is of a brown or grey cast. The same distinction is true in congested states of the whole substance. In acute Mania and Melancholia the whole surface of the centrum ovale, in some instances, presents a uniform pinkish hue; in others this hue is mottled with the normal white. In other instances, not in any way distinguishable from the last by the previous symptoms, the cut surface of the centrum ovale is mottled with a light violet hue. This hue is never uniform, except after death from long-continued epileptic convulsions. In acute Mania and Melancholia it is mottled either with white or with pinkish white. The above appearances of cerebral congestion are commonly accompanied by a great abundance of bloody points due to blood issuing from the cut orifices of the small vessels. This appearance is not constant, even in brains obviously discoloured by congestion. Its absence may be due to the loss of contractility in the small vessels, or to the blood they contain not being fluid.

Anæmia of the brain-substance, made evident by paleness, both of the grey and white matter, and by the small number of blood-vessels which are visible, is observed in a few cases of acute Mania; sometimes, also, but more rarely, in Melancholia.

In many chronic cases, with cerebral atrophy, anæmia is the ordinary condition of the brain-substance, although it frequently alternates with transient states of severe congestion. The state of the pulse, and the aspect of the skin of the face, the conjunctiva, and the lips, may indicate whether congestion or anæmia is present in the brain; but these conditions cannot always be diagnosed from the mental symptoms. Andral has well pointed out this common nature of functional disturbance arising from diverse causes:—"It is a law in pathology, that in every organ, the diminution of the quantity of blood which normally it should contain, produces functional disturbances, as well as the presence of an excessive quantity of blood. We have found, more than once, the brain and its membranes completely bloodless in children who died in the midst of convulsions. We have also seen the state of coma, in which many of their diseases terminate, coincide with remarkable paleness of the nervous centres. Sometimes, also, in adults, we have been struck with the complete absence of colour in the brain, perceptible principally in the grey substance, in cases wherein during life cerebral phenomena had taken place—such as delirium, convulsive movements, coma. Do not animals, also, who are bled to death, exhibit symptoms of this description?" "But when we have referred the symptoms to hyperæmia in one case, and to anæmia in another, are we come to the bottom of the subject? By no means; for this hyperæmia and this anæmia are themselves mere effects which—a thing very remarkable—the same influence can very often produce. Thus, by an emotion of the mind, the skin of the face becomes red in one person, and pale in another."—('Clinique Médicale.')

This enlightened view must be applied to explain the uniformity of symptoms which attend many other deviations from the normal condition of the brain-substance. Thus, induration and softening are both found in atrophic brains, both in chronic Mania and Dementia. Either of them may be attended by a congested or an anæmic condition, anæmia being the usual condition, and hyperæmia a frequent but transient state.

With regard to induration of the brain-substance in the bodies of persons dying insane, we have never met with that "leather-like and fibro-cartilaginous hardness and resistance" to which sclerosis of the brain is said to attain. The slighter degrees of induration dependent upon diminution of water in the brain, and perhaps also upon some amount of hypertrophy

of the neuroglia, or of albuminous exudation, are common in cerebral atrophy. The slighter degrees of induration may be general, but the higher degrees must be partial, since the organ could not perform its functions were it universally changed into a tough substance, like leather or caoutchouc. Callous cicatrices, marking the locality of old apoplectic rents, have offered the only examples of leather-like induration which we have met with among the insane.

Œdema of the brain, a state in which the tissue of the organ is permeated by water or serosity, is a not unfrequent condition in persons who, with atrophy of the brain, have had great general debility or cachexia of the body. The brain appears unusually moist, and its cut surface is of a brilliant white. In extreme instances, this condition is exaggerated until parts of the organ are almost broken down into a pulp, and the appearance of ramollissement is produced. It is not, however, to be considered one form of the latter affection.

The two forms of ramollissement are not found frequently in the brains of persons dying insane. The same may be said of the cellular infiltration described by M. Durand Fardel. In four hundred autopsies of the insane, we have only met with it in two instances. In both instances it occurred in aged persons suffering from chronic Mania, in whom it gave rise to a series of convulsive attacks, which terminated in death. The brains of the insane appear to be certainly not more liable than those of others to various incidental affections. Thus, in four hundred autopsies of the insane, we have only once met with a hydatid, only once with tubercular deposit in the substance and meninges, only once with a fibro-cellular tumour, and not once with malignant disease. The arteries at the base do not appear to be more frequently or extensively affected with atheromatous change, than those of sane persons of the same age. And in the bodies of the insane we have never yet met with that cretaceous deposit in the coats of the small arteries, which makes them feel like pieces of fine wire embedded in the brain-substance.

The Specific Gravity of Cerebral Substance in Insanity we were the first to investigate in this country. Other physicians have subsequently pursued the inquiry, especially Dr Sankey and Dr Skae. Dr Sankey in his lectures, published in 1866, has fallen into the unaccountable inaccuracy of stating that "Dr Bucknill did not examine the grey and white matter separately

in his cases, which both Dr Skae and I have always done." A reference to the table at page 520, which we first published in the 'Medico-Chirurgical Review' in 1855, will show that we did examine the grey and the white matter separately, and also the cerebellum.

We may state briefly, that in the thirty cases first tabulated and published by us in the 'Lancet,' Dec. 25th, 1852, the average specific gravity of the cerebrum was 1040, the range being from 1026 to 1046; while the average specific gravity of the cerebellum was 1043, the range being from 1039 to 1046. It was also observed that the specific gravity was higher "when life had terminated in coma or asphyxia, than when it had ended in syncope or asthenia." In our annual Report of the Devon Asylum, for 1851, we published some investigations on the same subject, from which it resulted that the average specific gravity of the cerebrum was 1039½, and that of the cerebellum, 1042. In the sixty three cases published and tabulated in the 'Medico-Chirurgical Review,' Jan., 1855, and which we now republish, the average of the white substance of the cerebrum was 1039, and that of the grey substance, 1037; that of the cerebellum, grey and white substance conjoined, 1040. The lowest specific gravity of white cerebral substance was 1033, the highest was 1046; of the grey substance the highest was 1048, the lowest 1030; of the cerebellum the highest was 1040, the lowest 1030. The lowest specific gravities were generally connected with a watery or œdematous condition of the brain, which led us to adopt the term "relative atrophy," in contradistinction to that of "positive atrophy," where the organ has actually shrunk. The two conditions, however, may coexist, as we remarked in the 'Lancet:'—"The additional fluid which makes the brain light, goes to make up for interstitial atrophy, but it does not wholly make up for it, and the brain shrinks from its bone case." "A low specific gravity does not necessarily indicate a diminution of cohesion, or the commencement of ramollissement, although it points in that direction. A brain may acquire a low specific gravity from an increased quantity of fat globules in its tissue, while retaining its normal consistence. We believe, however, that fat tends to accumulate only in softened brain, so that possibly this source of error may not exist; but it is, nevertheless, a point of the utmost importance to determine how much of diminished specific gravity in brain-tissue is to be attributed to

the effusion of serum, and how much to the accumulation of fatty matter. This question may be resolved by treating the substance with ether, and by evaporation. We are convinced that in circumscribed softening of the brain (true ramollissement) the low specific gravity is, to a great extent, owing to the amount of fatty matter deposited. In the last case of the table given, the specific gravity of the cerebrum, generally, was 1041; while that of the softened part was 1035; and, on examination, this pultaceous substance was found pervaded with an immense quantity of fatty matter." The conditions which favour high specific gravity are congestion and induration—those which favour a low one are œdema and fatty degeneration. A watery or œdematous condition of the brain is frequently met with in Dementia and chronic Insanity generally, and in such cases the specific gravity is low. It is low in the softened condition of circumscribed portions, which the microscope shows to be one form of fatty degeneration; and in other cases in which it is low, it is probable that there is much diffused but unrecognisable fat; finely granular amorphous fat diffused in the stroma, or contained in the cells and tubes, it being highly probable that morbid degeneration of brain-substance, like that of muscular tissue, takes place by the running together of the organic elements into forms of hydro-carbon.*

The pectoral and abdominal viscera present, in the insane, some pathological peculiarities which require notice.

Disease of the Heart is common among the insane, although Griesinger affirms that "the newest and most reliable statistics show only a very average frequency." Obstructive valvular disease is often seen in connection with simple and with hypochondriacal Melancholia. Dilatation of the heart, with great irritability of the organ, and attacks of palpitation, are frequent in chronic Mania; and we have observed, that this condition of the heart appears to impress its character of excessive excitability upon the mental disease, and that those who thus suffer are susceptible, irritable, impulsive, and subject to gusts of passionate excitement, but that they are neither malevolent nor refractory. In Dementia, the heart is liable to undergo fatty degeneration; and in three instances of chronic Mania with Dementia we have satisfied ourselves by microscopic examination that the death was occasioned by this change.

* On this subject see Dr Bastian's article in the 'Journal of Mental Science,' No. 56, Jan., 1866.

Disease of the Lungs occurs in the insane in all its varieties. It is frequently latent from the absence of cough, and from the patient's absorption of mind preventing complaint. The absence of cough in serious pulmonary disease is very peculiar. In Dementia it arises partly from torpor of the excito-motory system, partly from loss of attention—from the same cause, in fact, as that which gives rise to the frequent dirty habits of the insane. In Mania it arises from the attention being intensely preoccupied by the vivid ideas and delusions which absorb the mind. We have seen many patients in advanced stages of phthisis, who were never heard to cough so long as they were under the influence of maniacal excitement. When this underwent a temporary diminution, they were greatly troubled with cough, which was again arrested by the recurrence of excitement. The continuance of colliquative diarrhœa and perspiration, and of emaciation, proved that there was no halt in the progress of the disease, as the absence of cough has led authors erroneously to suppose. The torpor of the nervous system in Dementia leads to another peculiarity in pulmonary and in some other bodily diseases of the insane, namely, the absence of irritative or symptomatic fever; and hence it happens, that in a demented person whose strength is but little impaired, and whose constitution is tolerably good, diseases will obtain a high degree of development, with symptoms so few or obscure as to be incredible to the general physician. It is on this account that the numerous sloughing sores to which general paralytics are liable, produce so little suffering, or constitutional irritation. We have known the stomach disorganised by cancer, without the patient complaining of any pain, until a few days before death, when perforation took place. The only case of true carditis we ever saw, occurred in an insane person who complained of no pain, and in whose heart, disease was only suspected twenty-four hours before death, in consequence of the failure of the pulse. This peculiarity in the intercurrent diseases of the insane should teach the physician to observe with watchful anxiety every physical indication from which he can derive knowledge of the attack of disease, before it is so advanced as to be beyond control. Pulmonary Gangrene is more common among the insane than the sane; but not to the same extent here as at Vienna, where it appears to contribute largely to asylum mortality.

The frequency of Phthisis and of tubercular disease generally

in Insanity has attracted the attention of many observers. Griesinger having given the proportion of deaths from phthisis in various asylums, observes that in certain asylums, in the Bicêtre, for example, it rarely is remarked, and that the general statistics made by Hagen, show that in asylums generally a little more than one fourth of the deaths are due to phthisis, and that this proportion is almost the same as for the general population above fourteen years of age. Griesinger observes that this may be true of the general population of large towns, but not for the rural population, and that we must therefore assume that phthisis is more frequent amongst those who inhabit large institutions (not asylums merely) than amongst the general population.

We had ourselves arrived at and had published similar conclusions thirteen years ago. We had been impressed by the increasing number of phthisical patients in the Devon County Asylum, and in our annual Report on that institution for the year 1860, we observed—

"One form of disease, from which several patients have died, suggests the anxious inquiry whether by any sanitary precautions it might have been averted, namely, that of pulmonary consumption. Four patients who have died were admitted with this disease in an advanced state, but in nine others the disease was undoubtedly developed during the residence of the patients in the Asylum, and the apprehension has been impressed upon me, that the disease may have been developed by the overcrowded state of the dormitories. Phthisis is exactly the disease which would be developed by the bad influence of deteriorated air, breathed habitually at night."

In our Report for the following year we further observed—

"The number of patients who die of phthisis is always a source of peculiar anxiety, inasmuch as the development of this disease may be regarded as a test of the sanitary conditions of an institution. Some of the patients who are carried off by it are indeed admitted with the disease already developed, and sometimes far advanced; others are admitted with the seeds of the disease in the constitution, which the progress of time would under any circumstances bring to maturity. But, in a certain number of cases, patients long resident in an asylum pass from a state of good bodily health into one of tubercular degeneration from influences which they experience, but from which they ought to be guarded during the time that they are emphatically placed under medical care and treatment. Of these

influences the bad air of overcrowded dormitories is unquestionably the most potent, and although it is one from which the poor do not escape in their own close and narrow sleeping rooms, it is yet an anti-hygienic condition to which the patients in an hospital ought never to be exposed. An overcrowded condition of an asylum, which is an hospital for the insane, is the worst possible condition in which it can be placed both for the physical and moral welfare of its inmates. But, in addition to this cause of consumption acting directly upon the body, there is one which may act upon it through the mind, namely —the influence of a monotonous and cheerless existence, which a long continued residence within the walls of an asylum is apt to become to patients of a certain mental constitution; not only therefore are efforts made to relieve the monotony of a forced detention for the sake of those patients whose malady admits the reception of curative influences, but also for the sake of the hopelessly insane, ought proper efforts to be made to stimulate the flagging interest, and to give colour to a dreary life."

Since the date at which the above remarks were made and published, we have enjoyed large opportunities for observing lunatics who have for lengthened periods been under treatment in private residences, living in their own homes, or as single patients in the private houses of others, and the result of our observations has been fully to confirm our opinion that under such circumstances the insane are not more liable to phthisis and other tubercular affections than other people, and that phthisis which forms so large a proportion of the mortality of asylums for the insane, is the produce of the institutions and not of the cerebro-mental disease.

Gangrene is another disease of the lungs which is a far more frequent cause of death in lunatics residing in asylums than in the general population. Guislain first called attention to the liability of the insane to gangrene of the lungs in his Memoir published in 1836. He thought it generally due to the poverty of blood in patients who refused food, but although this is a frequent cause it is certainly not the only one. Sometimes it arises, as Griesinger has pointed out, from general septic infection, originating, for example, from a bed-sore. In the six years' averages of the Prague Asylum, 7·4 per cent. of the deaths arose from pulmonary gangrene, while in the autopsies, in the Pathological Institute, of persons not insane the average was only 1·6 per cent. Without having any decided patho-

genetic value in connection with mental disease, it would appear probable that gangrene of the lung is far more dependent upon inevitable circumstances of nutrition in which the insane are frequently placed than phthisis. Bronchitis and pneumonia are also frequent and fatal intercurrent disorders; and all of these lung diseases are exceedingly apt to be developed to an intractable degree in the insane before their existence is discovered. Mental excitement or mental debility disinclines or disqualifies the patient from complaining of pain or distress, and the nervous system has often been so exhausted of irritability that there is no cough, and but little dyspnœa, long after a period of the disease when very pronounced symptoms would have been developed in an ordinary patient.

Diseases of the Stomach and Intestines bear to Insanity a relation of the highest importance. In acute Melancholia, attended by refusal of food, the mucous membrane of the stomach is frequently found to be inflamed and softened, or ulcerated, and it often requires all the skill of the most experienced physician to determine whether an inflammatory condition of the stomach is the cause or the result of the abstinence. Softening of the coats of the stomach is sometimes an effect or a concomitant of advanced cerebral degeneration. Whether the different forms of stomach-disease classed under the term dyspepsia, are efficient causes in the production of Insanity, by impeding the due nutrition of the body in general, and of the brain in particular, there are as yet no reliable data to determine. The probability is in the affirmative. This, however, is certain, that dyspepsia is common among the insane, and its removal by therapeutic and dietetic agencies is an important and efficient means of promoting the cure of mental disease. There is nothing remarkable among the insane in the pathology of the small intestines; but the large gut suffers in chronic Insanity frequent and extraordinary displacements, which we are quite at a loss to explain. The most common of these displacements is that of the transverse arch of the colon to the lower part of the abdomen, from whence again it ascends to take its proper position as the descending portion. But the most extraordinary anomaly we ever met with, was the formation of a cul de sac rising from the middle part of the rectum, and ascending in front of the other intestines until it reached the ensiform cartilage, the cul de sac being nearly two feet in length. Its walls were thicker than those of the colon, and it contained all the intes-

tinal coats. The patient in whom it occurred had ascites, and preparations were made for tapping; but percussion and palpation revealed the existence of something strange, and the operation was not performed. Had it been performed in the usual manner, the trocar would have passed into the rectum. Our friend Dr Parsey, of the Warwickshire County Asylum, assisted us in this case, and made the *post-mortem* examination.

Many instances are on record of foreign substances found in the stomach and intestines. Once we found the stomach of an idiot crammed full of cocoa nut fibre, which had evidently been there some time. Ulceration and perforation of the coats of the stomach were rapidly fatal, but it was remarkable that the patient had no symptoms to call attention to his state until the last fatal complication occurred. Dysentery is apt to occur in asylums for the insane where the food is too liquid or insufficient, or where cleanliness is not thoroughly attended to; and a considerable number of chronic lunatics, and especially of paralytics, die of common but obstinate diarrhœa.

The Liver is not more frequently congested, or otherwise diseased, in the bodies of the insane than in others. The old Greek theory, that madness depends upon black bile, has no foundation in pathological fact. The only noteworthy peculiarity in the liver which we have observed, has been an apparent loss of structure, occurring in Melancholia and Dementia of very long standing, and in which great emaciation and prostration of vital power have long preceded death. In seven instances of this kind we have found the liver shrunk and flabby, and its structure converted into an appearance closely resembling that of the healthy spleen. Dr Budd describes an analogous change occurring in persons not insane, but with acute and recognisable symptoms.

The Spleen is usually small in chronic Insanity.

The Kidneys are remarkably free from disease in all the forms of Insanity, and the changes which give rise to albuminous urine are especially rare in them. We have only met with three instances of decided Bright's disease among the insane; and upon inquiry in other asylums, we have found that the experience of others has been of a similar nature. Prior to observation, we should have expected Bright's disease and Insanity to have been frequently concomitant, on account of the common influence of intemperance in the production of the two disorders; or even that the former might be the occasion of Insanity, through the influence of its accompanying anæmia,

and the toxic action of unsecreted urea upon the brain. Griesinger remarks that "Bright's disease is exceedingly rare amongst the insane as a primary affection, but the slighter forms which accompany the various marasmatic states are naturally common." Dr Howden in his careful analysis of the Montrose Asylum autopsies, which generally agree with our own observations, has met with a much larger proportion of kidney disease. In 235 *post-mortem* examinations he found fatty degeneration of the kidneys in 55 cases, and cysts of the kidney in 31, and during three years twelve patients were admitted into his asylum with albuminuria. In connection with this peculiarity it would be interesting to know the habits of the sane population of Montrose, the prevalence of Bright's disease among them and the causes of insanity.

Renal and vesical calculi are equally rare in the insane. We have not once met with either, and only once with prostatic calculi. In this case the bladder and kidneys had become diseased from irritation communicated from the diseased prostate.

The Reproductive Organs are frequently the seat of disease, or abnormal function. Among male idiots and imbeciles, instances of deficient or excessive development of these organs are common; and the female population of every large asylum contains several instances of that masculine development of frame and constitution which indicates an abnormal formation of the sexual organs. There can be little doubt from the number of such instances, that the androgynous character is often accompanied by mental imbecility. Is it not always so to some extent, and is not this a cogent reason why the women who have invaded the sphere of man's work and duty have, as a rule, proved such miserable failures? The women of highest mental capacity have generally been remarkable for the strong development of the characteristics of their own sex.

Amenorrhœa is a frequent cause or consequence of, or concurrent phenomenon with, mental disease; and its removal often leads to recovery of sanity. Extreme congestion of the ovaries and uterus, with false *corpora lutea* in the former, we have found in two instances of young women who died during the excitement of acute Nymphomania. Ovarian tumours are not uncommon; and at the time we write two insane patients are under our care, suffering from ovarian dropsy. One has been tapped several times, to ward off the imminent danger of death

from the upward pressure of the fluid on the stomach and lungs. The other, an epileptic, with the assistance of Dr Parsey, we tapped for the same reason, nine years ago, drawing off five gallons of porter-coloured fluid; and, strange to say, the cyst has only refilled to a slight extent.

Bed-sores or Asthenic Gangrene is a most serious intercurrent complication, happily, far less frequent now than it formerly was, before the management of the advanced stages of General Paralysis was so well understood as it has now become. An article on this subject by us, will be found in the fourth number of the 'Journal of Mental Science,' then called the 'Asylum Journal,' in which this complication of Paralysis is referred to defect of nervous influence:—"It depends on the cessation of nutrition, and the consequent death of the tissues and the blood contained in them from the abstraction of nervous force, and resembles the destruction of the tissues of the eye and the ulceration of the cornea arising from destruction of the trunk of the trigeminal nerve, and gangrene after fractured spine and in continued fever." In the worst cases, the gangrene of Paralysis does not confine itself to the coverings of the sacrum, the trochanters, and other bony prominences. It sometimes attacks those parts where the fleshy cushion is the thickest, as the gluteal and lumbar regions. These early and severe cases bear a strong resemblance in the appearance of the parts to traumatic gangrene, and mortifications of the moist kind. The skin becomes dusky red, then brownish and mottled, and eventually black. Bullæ sometimes form on the fingers and feet and the parts not subjected to pressure. In cases of rapid nervous degradation the decomposition of the body commences before death. The slightest pressure produces sloughing, the weight of one leg crossed over the other in bed, or the weight of the hand and forearm lying upon the abdomen. In two instances we have seen the cuticle peel from the whole body in the moist state observed in a rapidly decomposing corpse. Final eremacausis had become active while the vital functions were still languidly performed. In more frequent cases where the nervous power has deteriorated more gradually, paralytic sloughing is of the dry type and rather resembles senile than traumatic gangrene. A portion of skin from two or three to six or eight superficial inches becomes reddish, mottled brown, and then black. After a time a narrow line of demarcation is formed, and a thin dry slough is separated. Very often this

form of gangrene does not penetrate through the true skin; after separations of the slough healthy granulations form, and the sore frequently heals in a short time. The healing process in such cases of General Paralysis is not uncommonly observed to be remarkably rapid. Scarifications for erysipelas and other incisions will heal in such patients by adhesion, and even while new sloughs are forming, old sores will granulate and heal with surprising rapidity. We cannot doubt that these affections are analogous to the mortifications which take place in the lower extremities of persons who have suffered mechanical injuries of the spine. They are pathogenetic, forcibly pointing to the implication of the spinal cord in the disease in which they so frequently occur. In his lecture on mortification, Sir James Paget observes that a "defective nervous force may be counted among the many conditions favorable to senile gangrene, and so, yet more evidently, the sloughing of compressed parts is peculiarly rapid and severe, when those parts are deprived of nervous force, by injury of the spinal cord or otherwise". (p. 463). Sir B. Brodie also refers to these phenomena:—"I have known mortification in the ankles begin within twenty-four hours after injury of the spine, and a remarkable circumstance it seems that injury of the spinal cord should thus lessen the vital powers so as to make the patient liable to mortification, when we consider how many circumstances there are, which would lead us to doubt whether the nerves have any influence over the capillary circulation." ('Lectures on Surgery and Pathology,' p. 308.)

The Humoral Pathology of Insanity.—The qualitative analysis of the blood of the insane has been made the subject of investigation by some German and French physicians. Although the somewhat difficult manipulations needful to obtain accurate and trustworthy results in an investigation of this kind, may be a severe test of the chemical abilities of alienists, we must admit that the uniformity of the gross result obtained by several independent inquirers, is sufficient to justify the important conclusion, that the condition of the blood of the insane is opposed in character to that which is found to obtain in inflammatory diseases, and that it approximates to that found in non-inflammatory neuroses, and in febrile affections. Hittorf, of the Siegburg Asylum, analysed the blood of seven patients suffering from acute Mania; the results he obtained were, that in six out of the seven cases, the fibrine was below 2·5, the percentage of

fibrine given by Becquerel and Rodier as the amount of this substance in healthy blood; that, in the same number of cases, there was a diminution of the globules; and, in five out of the seven cases, there was an increase of water. In Hittorf's analysis of healthy blood, however, the amount of fibrine is marked as low as 1·4. This disagreement with the result obtained by physiological chemists of reputation, is sufficient to detract from the value of his conclusions.

Erlenmayer has analysed the blood of patients suffering from various forms of mental disease. The conclusions he arrives at are, that the venous crasis, *i.e.* the increase of globules, is very rare among the insane, and principally occurs in idiocy and delirium tremens; and that the fibrinous crasis, *i.e.* increase of fibrine, is equally rare in cases of Insanity free from complications which would tend to modify the proportions of this constituent.

M. Michea, who has investigated the condition of the blood in General Paralysis, found that, in the majority of cases, there was an increase in the number of globules; in the majority, also, the quantity of fibrine was normal, in some it was diminished. The inorganic matter of the serum representing the albuminous constituent was diminished in little less than one third of the cases; from which he infers, that "the spontaneous diminution and the insufficient formation of the albumen of the blood, are the immediate causes of a certain number of the cerebral effusions which occur in the paralytic insane."

The analysis which Becquerel and Rodier obtained of blood in acute inflammations ('Path. Chem.,' p. 105) shows a proportion of fibrine of 5·8 per cent., the normal standard being 2·5; a decrease of globules from the normal standard of 135 to 123·3; a decrease in the albumen of the serum, and also the alkaline salts; and an increase of fatty matters. In encephalitis, Poggeolli and Marchal found the fibrine increased to 6·08, and the globules decreased to 106·05, affording a remarkable contrast to the proportion of these constituents found by Hittorf in acute Mania; the highest amount of fibrine found by the latter being 2·03, and the lowest amount of globules being 109·191.

The Urine in Insanity has been carefully investigated by Dr Sutherland, to whose papers on this subject in the 'Medico-Chirurgical Transactions' of 1844 and 1855 we must refer our readers. A comparison of the results obtained by him, with those of Dr Bence Jones, in his inquiry respecting the propor-

tion of phosphates in the urine of phrenitis, delirium tremens, and general paralysis, is highly instructive.

In four out of five cases of acute Mania, Dr Sutherland found the proportion of phosphates above the mean quantity present in health; in the fifth case it was nearly of the healthy standard. In one case it was as high as 9·37, being nearly equal to that found by Dr Bence Jones in delirium from fracture of the skull. Dr Sutherland believed, however, that this excessive elimination of the phosphates is rather a measure of the consumption of nerve-force than of inflammatory action. The results of treatment, of blood analysis, and of post-mortem investigations, proved to him that the condition of the brain in Mania is not inflammatory.

In acute Dementia the amount of the phosphates was remarkably deficient. It was lowest when the mental faculties were most feeble. In one case the proportion was 2·49, when the powers of the mind were in abeyance; when they again began to be exercised, the proportion increased to 5·1. In another case, when first examined, the proportion was 5·23; but as the disease advanced, and when the patient was unable to comprehend what was said to her, the phosphates fell to 2·37.

In General Paralysis there was great deficiency of the phosphates, these falling, as the disease advanced, from 4·42 to 1·57. In chronic Mania and chronic Dementia the amount of phosphates was below the average in every case but one, a patient in whom the powers of the mind were little impaired. Dr Sutherland thought that these results correspond in a very interesting manner with the analyses of the brain and of the blood in mental diseases. The tissue from which the phosphates are eliminated is the albuminous; and according to L'Héritier, the brains of infancy and old age, compared with that of the adult presents a minus quantity of albumen, fat, and phosphorus; while according to Couerbe, there is a plus quantity of phosphorus in the brain of acute Mania.

In the reaction of the urine, the observations of Dr Sutherland are opposed to those of Erlenmayer, who in his thesis 'De Urina Maniacorum,' states that the urine is generally alkaline in recent cases of Mania. Dr Sutherland found that in 125 cases of recent Mania, admitted during two years at St Luke's, the urine was acid 111 times, alkaline 13 times, neutral 1; and that, in 100 cases of chronic Mania and Dementia, it was acid 61 times, neutral 6, and alkaline 33 times; in 25 cases of

paralysis of the insane it was acid in 12, neutral in 1, alkaline in 12.

The Chemical Pathology of the Brain has received little attention in this country. A careful paper on the subject by Dr Adam Addison will be found in No. 58 of the 'Journal of Mental Science.' Dr Addison condenses the observations of Lassaigne, Von Bibra, Schlossberger, and others, and after detailing his own experiments on twelve insane persons he deduces the following results:

"1. A confirmation of the assertion that the different anatomical parts of one and the same brain present great differences in their quantities of water and fat, with the addition that these differences appear to be greater when complicated by Insanity.

"2. A confirmation of the fact that the grey substance is far poorer in fat than the white.

"3. A confirmation of the law that the quantity of matters soluble in ether stands in an inverse relation to the quantity of water.

"4. That in the greater number of the foregoing cases, the results as to the quantities of water were slightly higher than those of other experimenters on sane brains.

"5. That the quantities of fat were generally smaller, and that in two cases of Idiocy—one of Dementia, and one of chronic Melancholia—they were below the quantity found in the new-born child, and in two cases not greater than the amount found in embryonal conditions of an early stage.

"6. That the quantities of phosphorus did not have a parallel connection with the degree of intelligence.

"7. That in three cases of hemiplegia the average quantity of fat in the corpus striatum, optic thalamus, and grey substance of the hemisphere opposite the paralysis, was less than the average quantity in the same parts on the other side.

"8. That in a case of cancer cerebri the cancerous mass contained less fat and more albuminates than the unaltered cerebral substance."

The Pathology of General Paralysis.—This interesting, but hopeless form of disease, may be said to have been unknown until it was fully described in the admirable 'Mémoire' published by Calmeil in 1826. Haslam, it is true, in his 'Observations on Madness' (2nd edit., 1809, p. 259), refers to its symptoms in a manner which can leave no doubt that their peculiarity had engaged his attention; but no further notice was taken of it until Bayle's thesis, in 1822, and Calmeil's work in 1826, called to its remarkable phenomena the attention of all medical men practising in lunacy.

It would appear that Haslam first described the disease but did not name it. Calmeil, who followed the English psychologist, gave it a name and got the honour of the discovery.

This is acknowledged by Brierre de Boismont, who, in M. Tardieu's 'Supplément au Dictionnaire des Dictionnaires,' p. 601, after showing that he had described the Paralysis of the Insanity of Pellagra before M. Baillarger, remarks:—"Je n'ai pas donné le nom à cette complication de la pellagre, cela est incontestable; mais pour tout lecteur impartial, j'en ai fait connaître les principaux symptômes. Ma position a, dans ce cas, quelque analogie avec celle de John Haslam, relativement aux médecins français."

Calmeil in his early monograph says, "The conclusion therefore is permitted, that it is a chronic inflammation which gives rise to General Paralysis by determining to the brain a peculiar modification which we have not known how to appreciate; and which, independently of the changes recorded, may have existed in all the individuals whom we have dissected." In his later work, 'Traité des Maladies inflammatoires du Cerveau,' 1859, he designates the disease as "Periencephalitis chronica diffusa."

Other French alienists attribute the pathological cause of this disease to changes still more special and limited than those first alleged by M. Calmeil. Thus, Bayle, with whom Esquirol concurs, attributes it to a chronic form of meningitis; M. Delaye, to induration of the medullary substance. M. Bottex affirms that the meninges are always adherent to the cortical substance, and that any alteration in the medullary substance is rarely observed. M. Parchappe attributes it to the softening of the middle layer of the cortical substance, which permits the ready separation of the external layer. M. Belhomme confirms the alterations reported by others in the superficial parts of the cerebrum, but adds, that the changes originating them extend gradually to the very centre of the organ. These discordant opinions lead necessarily to the inference, that the pathology of this disease was yet purely a matter of surmise. That degraded conditions of nutrition are commonly found in the brains of persons dying of General Paralysis, was about all that could be stated as actual and reliable fact. The arachnoid is found opaque, but not so notably changed as to indicate the previous existence of inflammation in the common acceptation of that term. There is atrophy, and subarachnoid dropsy. The grey cortical substance is obviously thinner than in health. The medullary substance is often discoloured with pink mottling, or presents a slight shade of brown or grey. Its specific gravity

is always diminished, a fact pointed out by the author in the Report for the Devon Asylum, for the year 1851, and more fully proved in his paper on the "Pathology of Insanity," in No. 29 of the 'Medico-Chirurgical Review.' In the above-mentioned Report, the author expresses his opinion on the pathology of this disease as follows:—"I believe that General Paralysis is essentially *a disease of nutrition affecting the whole nervous system*—that nerve-matter, both in the vesicular and tubular portions thereof, is imperfectly produced—and that the cerebral or generative, and the conducting functions are consequently interrupted. If chemical research should inform us hereafter of what pure neurine consists, it may perhaps be enabled to show that, as in rickets, the utility of the osseous system is injured for want of certain earth salts, so, in this disease, the atrophy observable in the gross mass of the nerve tissues, and the general decay of function depend upon want or change in the quantity or quality of the neurine." We adhere to this opinion, which we believe justified by the fact first ascertained by us, and published in the above mentioned Report, that, "in the paralysis of the insane, the irritability of the muscles and the excito-motory function of the nerves is nearly lost; in ordinary paralysis, whether dependent upon lesion of the spinal cord, or of the brain, these functions are retained. I think this point important, as it tends to prove that the cause of this disease is not localised in any one portion of the cerebro-spinal axis, but consists in some morbid change, pervading the whole nervous system, and probably implicating the distal fibrils."

That this disease consists in some vice of nutrition, whose nature is yet unknown, but whose extent embraces the whole of the nervous system, and is by no means limited to the encephalic centres, is a view which also appears to us to derive support from the atrophied and changed condition of the spinal cord. In the above-mentioned Report the author states, "I have made numerous examinations of the spinal cord, and always have thought that it presented a less diameter than ordinary. As, however, I could not verify the rough estimates of the unassisted senses by any satisfactory appliances of measure or of weight, I am unable to advance my knowledge of this fact as satisfactory or conclusive. Satisfactory proof that the spinal cord is atrophied would be of great importance; for, whilst most of the changes observed in the brain itself are common to other morbid

conditions, it would probably be found that atrophy of the cord, in addition to these changes, is peculiar to this disease.

During many years after this was written, we paid much attention to the condition of the spinal cord in General Paralysis. We have weighed the medulla oblongata, and the upper portion of the cord, in many instances; but, although our conviction is that its absolute weight is greatly diminished, the want of a trustworthy normal standard of comparison incapacitates the proof. The white fibrous matter of the medulla and of the cord has appeared to us indurated, as well as diminished in volume, while the columns of grey substance in the cord and the grey matter of the olivary bodies, have presented a deeper colour, often tinged with brown, and a softened consistence. The membranes of the cord, also, have, in many instances, been rougher than usual, and often accompanied with a dark grey discoloration.

Since the above observations were published in our earlier editions, diligent investigations have been pursued into the pathology of this disease which seems to possess a peculiar attraction for pathologists, probably excited by the expectation that it does really depend upon some one peculiar modification of the nervous system, the discovery of which may give a new and valuable key to further research.

It is remarkable, however, how little attention has been given until recently to the condition of the spinal cord, although all the symptoms would seem to indicate that this, if not the primary, is, at least, the constant seat of the disorder. Dr Boyd, who first called attention to morbid changes in the spinal cord, has published in the 'Journal of Mental Science,' for 1871, the valuable records of his *post-mortem* examinations in the Somerset Asylum. At page 366 he gives a table of the conditions which he observed in the cord in 161 cases. In only 5 males and 1 female was the spinal cord found to be apparently in a normal condition. In the remaining 155 cases, the cord was softer than natural in 36; it was indurated, firm, tough, and wasted in 20; fluid was found in the spinal canal in unusual quantity in 16, and blood in 14; and in all the other cases there were obvious morbid changes in the cord itself, in the canal, or the membranes. At page 19 of the same volume Dr Boyd records the morbid changes which he observed in the brain, but these were far from being so constant as those he met with in the cord; and there is nothing to distingnish them from the

changes generally observed in chronic cases of Insanity without paralysis.

A valuable contribution was made, in 1869, by that eminent pathologist Dr Lockhart Clarke, which will be found in No. 72 of the 'Journal of Mental Science.' In a case of General Paralysis he found on slicing the cerebral white substance of the brain—

"Numerous cavities of a round, oval, fusiform, or crescentic or somewhat cylindrical shape, and varying from the size of a pea or a barleycorn to that of a grain of sand, so that the surfaces in some sections strikingly resembled the cut surface of Gruyère cheese, while those of others had more resemblance to a slice of the crum of bread."

"They were for the most part empty, had perfectly smooth walls without any lining membrane, and seemed as if they had been sharply cut out of the tissue. A few, however, were found to contain what appeared to be the remains or the *débris* of blood-vessels mixed with a few granulations of hæmatoidin."

"It is almost certain that at least the greater number of these cavities were perivascular spaces or canals which originally contained blood-vessels surrounded by their peculiar sheaths, and which subsequently became empty by the destruction and absorption of those vessels."

"These remarkable vacuoles or canals were also found in the optic thalamus, in the pons Varolii, in the anterior pyramid and the upper part of the medulla oblongata. Neither the lower part of the medulla nor the spinal cord presented any appreciable deviation from the normal state. In the grey substance, in some places, nerves and cells were unusually loaded with pigment granules; in other places they had undergone, to a greater or less extent, the process of disintegration; while here and there were scattered over areas of variable extent, irregular masses of fat particles of different shapes and sizes.*

Decidedly the most important contribution to the pathology of General Paralysis which has been made of late years is that of Dr C. Westphal, published in the first number of Griesinger's 'Archiv. für Psychiatrie,' and of which an excellent translation by Dr James Rutherford has been published in Nos. 66 and 68 of the 'Journal of Mental Science.' Westphal's paper is both original and critical, and a great part of the value of his work consists in his power of collecting and estimating the observations and opinions of other observers. No one, from learning and knowledge of the subject, could be more competent to perform this difficult and important task.

The naked-eye appearances of the brain Westphal summarises as follows:

"Pachymeningitic, in part hæmorrhagic, collections upon the internal surface of

* See also Dr Lockhart Clarke's communication to the 'Lancet,' September 1st, 1866.

the dura mater and hæmatoma of the latter; opacity and thickening of the pia mater in various degrees; in the slighter degrees especially along the course of the great vessels and the longitudinal cleft, frequently associated with the formation of small granulations upon the surface of the convexity; frequently the pia mater adheres to the cortical grey substance of the brain, so that in drawing it off, greater or smaller pieces of the latter remain attached to it, and the cerebral surface thus denuded of the pia mater acquires a torn and gnawed appearance. The adhesions occur essentially upon the summit of the gyri, and principally upon the convexity of the brain by the side of the longitudinal cleft, and on the anterior lobes. At other times the pia mater and its meshes are saturated and filled with serum; the membrane can then be easily removed without involving the surface of the brain. The ventricles, too, are very often much dilated with serous fluid, the ependyma is thickened, sometimes in the form of granulations. It has been further shown that in certain cases there is atrophy of the brain substance; this may in some degree involve the grey cortex, but chiefly the medullary substance. The consistence of the cerebral substance sometimes appears changed, the white sometimes firmer and tougher; the grey substance especially in its more superficial layers, somewhat softer than normal. In the latter there is at the same time observed either a great fulness of the blood-vessels, giving it a violet red colour, resembling wine grounds, or it appears pale and faded. The nerves at the base of the brain do not generally present any alteration; still, cases occasionally occur of atrophy of the optic nerves, and the nerves proceeding to the muscles of the eye."

"I have reason to believe that the olfactory nerve is more frequently affected than has been generally acknowledged."

In the interpretation of these appearances, preceded as they frequently are by maniacal and febrile symptoms, the author argues against the inflammatory theory, concluding as the result of comprehensive special observations "that the maniacal excitement of General Paralysis does not in itself stand in relation to pathological increase of temperature." He objects to M. Parchappe's method of examination and the conclusion he founded upon it, that the seat of the morbid process is in the cortical cerebral substance. Changes in this substance were investigated subsequently by Rokitansky who believed that an increased growth of connective tissue took place in it whereby a viscid glutinous fluid, rich in nuclei and the fibrous elements, was formed, with colloid and amyloid corpuscles resulting from the destruction of the nerve elements. Westphal points out the great difficulty of the examination, especially in the fresh preparations which were used by Rokitansky, and concludes, "I dare affirm that no one has yet demonstrated such processes in a manner at all convincing either in the grey or in the white substance."

The conditions of the cerebral vessels which have in this country been described by Dr Sankey as pathological in this disease, Westphal considers to be normal.

"Whether we agree with the view taken by Robin of these sheaths (perivascular lymph spaces of His) or not, it is at all events clear that if we compare with this the descriptions and drawings of Wedl, Sankey, and others, set down as pathological, we shall find that many of the drawings of the former and all those of the latter, are merely representations of a normal condition of the vessels. The serpentine form, too, upon which great stress has been laid (produced by the contraction of the alleged newly formed connective tissue around the vessels) is frequently seen in a well-marked degree in healthy brains. I have never considered this condition to be pathological, and have often given expression to my views."

He concludes that nothing has as yet been discovered of the finer changes of the cerebral substance in this disease, and that what we do know consists in the cognizance of certain grosser changes in the consistence and the amount of blood it contains, which do not appear to be of inflammatory origin, for there are no granulated corpuscles in the cortex or white substance, and the other traces of an inflammatory process are wanting. Of the meninges, indeed, opacity and thickening are extremely frequent, and have an analogy with chronic inflammations of other membranes. But chronic meningitis does not explain the nature of the disease, for these appearances are often absent in General Paralysis and often present when there has been no paralysis.

"We may, therefore, at most infer that the cerebral changes lying at the foundation of the paralysis very frequently go along with chronic inflammatory conditions of the meninges, are accompanied by them, and stand in a certain relation to them; but not that the fundamental morbid process is identical with a chronic meningitis or under all circumstances depends upon it."

Although no peculiar characteristic and essential change has yet been observed in the brain, observations on the spinal cord have given more definite and practical results. Westphal remarks that the spinal cord was formerly very seldom examined, and, thus, it came to pass that its condition was either entirely ignored, or the purely cerebral character of the disease was expressly inculcated, as distinguishing it from other spinal affections. As both Dr Boyd and we ourselves had, more than twenty years ago, emphatically inculculated our opinions that General Paralysis was a disease of the spinal cord, we think that Dr Westphal, from want of information doubtless, scarcely here manifests the accurate appreciation of others which is so characteristic of his remarks.

"Diseased conditions of the spinal cord are now, however, as I think I have shown, quite common in General Paralysis of the insane, and may be considered as amongst the best constituted facts. Virchow and more recently Magnan have also

recognised affections of the spinal cord. In so far as they have as yet been observed, these affections present various forms and degrees; sometimes the membranes are involved, sometimes they are not.

"On the dura mater, inflammatory processes are occasionally observed (pachymeningitis, also of a hæmorrhagic character). Affection of the pia mater is recognised by general opacity and thickening of its tissue: thickened bands and retiform lines are also frequently seen projecting from its surface, and moreover, filiform or more membranous adhesions pass between it and the dura mater. In regard to the disease of the spinal cord itself, there may be distinguished, anatomically, the following forms:—1st. Affection of the posterior columns throughout their whole length from the cervical to the lumbar regions. 2nd. Affection of the posterior section of the lateral columns likewise throughout their whole extent. 3rd. Mixed affection of the posterior columns, and of the posterior portion of the lateral columns. The isolated affection of the posterior columns assumes a form somewhat different anatomically from the other varieties. It consists in a considerable loss of nerve elements (atrophy), in the place of which there has entered a connective tissue-like substance, which is sometimes plainly seen, when longitudinal sections are made, in the form of completely developed fibrous connective tissue. When transverse sections are made, it is seen that this connective tissue lies imbedded here and there in irregular plates, of larger or smaller size, between the transverse sections of the nerve tubes. Where the process is further advanced these plates unite with each other, so that when still further advanced, merely a connective tissue-like substance is apparent, in which here and there the transverse section of an isolated nerve tube may still be seen. The nerve tubes themselves appear partly very small, partly of ordinary diameter, and occasionally very broad. Atrophy and hypertrophy of the nerve tubes have therefore been spoken of; but this point demands further investigation, as, even in the normal spinal cord, considerable differences occur in the diameter of the nerve tubes. The mode of preparation (for example, unequal hardening) also plays a part. I consider, therefore, that this question is not yet fully elucidated."

In the posterior columns, constant distinctions can be made out in comparing the superior and inferior portions of the cord in regard to the intensity and extent of the disease, but in the cervical region Goll's tracts are very frequently only affected. The more anterior portions of the posterior columns situated next to the posterior commissure always remain most intact. Fat cells, pale cellular elements containing nuclei and corpora amylacea, are often observed. In affections of the lateral and postero-lateral columns, granulated corpuscles and diffused lines of connective tissue, much broader than in normal conditions, are seen. If the lateral columns only are affected, the disease is always confined to their posterior section.

A connection has not yet been demonstrated between these pathological conditions of the cord and those of the brain. The granulated corpuscles are not found beyond the foot of the peduncles of the cerebrum, and no abnormal changes have been as yet observed in the ganglia of the nerves. The idea of the

extension of brain disease downwards to the cord, must for the present be abandoned. The extension of disease of the cord upwards to the brain is more consistent with the fact of the degeneration of the posterior columns diminishing towards the cervical region. Still no such extension can be demonstrated, and there is nothing as yet to justify the assumption of a direct continuation of the pathological process into the brain. We must for the present regard the cerebral and spinal diseases as simultaneously existing in General Paralysis in certain respects independently of each other. There is a certain disposition of the nervous system in which, and according to unknown causes, sometimes the spinal, at other times the cerebral, and at others the peripheral cerebral nerves are attacked by the morbid process either in succession or simultaneously. As the morbid processes in the brain are not encephalitic, the connecting link seems to be the frequent occurrence of chronic meningitis in the brain and the cord. Westphal distinguishes two forms of the disease which may be recognised during life by distinctive difference of gait. In the *Tabic* form which he attributes to grey degeneration of the posterior columns of the cord, the gait is like that in tabes dorsalis. The patients lift their legs high and throw them outwards, stand firmly while their eyes are open, but stagger or fall when they shut their eyes. The motor disturbance in this form very frequently precedes the mental disease for a long time.

In the *Paralytic* form the patient lifts his feet very little from the ground, taking short steps with legs apart, and does not stagger when he shuts his eyes. In this form the mental disease is generally far advanced before the motor affection is observed. Its pathology is believed to be chronic myelitis.

Whether the tabic form of General Paralysis is the same affection as the Paralysie Générale Progressive of Regnier, or the mental disease which occasionally supervenes upon ordinary tabes dorsalis, we have not as yet data on which to form an opinion. It is probable future observers will distinguish more than two varieties of the disease. The pigmentary changes in the ganglia of the sympathetic which were first described by Poincaré and Bonnet, have also been seen by Dr Batty Tuke and Dr Howden, but unfortunately for the sanguine hopes which were rested upon the discovery, they are found not to be peculiar to General Paralysis, but to be common in all forms of chronic mental disease.

The morbid conditions of the spinal cord which were first indicated by Dr Boyd and by ourselves, and the existence of which was pointed out with certainty by our own experiments on the gradual failure of reflex nervous action, have now been thoroughly recognised in the observations of Westphal, and they for the present constitute the special pathology of this disease. No change in the brain or its membranes has yet been demonstrated which is special to General Paralysis; but the peculiar psychical symptoms of the more common form of this disease, the optimism, and the fertile imagination which creates such wonderful delusions in the midst of progressing Dementia, leads us to anticipate that future investigation will discover some special and characteristic cerebral change.

We are but on the first steps of the ladder of observation and discovery into the physiology and pathology of the brain and its appendages, or to speak with more accuracy of the nervous system and its centres. It is only since the first edition of this Manual was published fifteen years ago, that the old belief in the spiritual nature of Insanity has utterly died out. It is only within this recent period that trustworthy observations have been made on the morbid histology of the brain, and even now next to nothing is known of its chemical pathology. But physical inquiry is alert and incessant, and if the authors should live to issue another edition, they confidently hope to record that the veil of ignorance has been rent in many directions, and that the genesis of mind and its diseases is no longer perceived merely as a general fact, but in its detail as a great and growing science.

CHAPTER VI (*continued*).

MORBID HISTOLOGY

The difficulties arising out of the peculiarly delicate structure of the brain, which for so long stood in the way of the anatomist, preventing him from arriving at a definite knowledge of the histology of the organ, were of necessity even greater stumbling-blocks in the path of the pathologist. The double-bladed knife of Valentin, which had aided in the elucidation of the healthy and the unhealthy conditions of other organs of the body, failed in producing sections of the brain sufficiently thin for submission to the microscope, and it was not until chemical agency was employed that any accuracy was obtained in our knowledge of the relations of its complex elements. As soon, however, as it was discovered that chemical solutions could be employed, which, whilst hardening the nervous tissue did not interfere with its relative structure, a host of observers broke ground in this yet untrodden field of anatomical research. In Germany the researches of Arndt, Jacubowitsch, Meynert, Bischoff, Stilling, Schroeder van der Kolk, Kölliker, and others, have served to place the anatomy of the brain on almost as definite a footing as that of any other organ of the body, whilst in England the splendid demonstrations of Lockhart Clarke stand pre-eminent. The pathologist soon followed in the track of the anatomist, and although it cannot be said that his results have been so immediately brilliant, he has done most important work, which must, when further prosecuted, react on physiology and anatomy.

In the last edition of this work an attempt was made to describe in a general manner the structural alterations revealed by the microscope in the various tissues of insane brains. Up to that time (1874) it could hardly be said that these changes had been in any instance definitely and finally correlated with clinical phenomena; little had been done to establish definite

C. Berjeau, lith.

Waterston Sons & Stewart, Lith^rs Edin^r

pathological entities based on morbid anatomy, and we have to express our regret that although five years have elapsed we can point to only two instances in which this step has been successfully accomplished. We propose, therefore, to repeat the substance of our general descriptions with such additions as recent observations have furnished us, and to append a detailed description of the minute histology of General Paralysis and Senile Dementia after the careful descriptions of Mierzejewski and Herbert Major.*

It may be broadly stated that morbid changes can be found in every insane brain if the investigation be thoroughly carried out, and although we are not prepared to go so far as Van der Kolk, who says that he has never failed in obtaining satisfactory explanations of the symptoms which had occurred during life by post-mortem examinations, minute and persevering microscopic observation will invariably prove the somatic nature of all those diseases in which mental obscuration is the predominant symptom.

In order to afford the student a criterion of health we have reproduced in colours Arndt's plate of the normal brain structures (Pl. IX). It gives a good idea of the arrangement of the elements of the brain cortex as viewed by a magnifying power of 250 diameters and stained with carmine.

It will be seen on reference to this illustration that the brain substance consists of vessels, fibres, cells, and an interstitial material, the neuroglia. The vascular supply of the brain, its distribution and amount, is of the highest importance to the cerebral pathologist. It is not here necessary to allude to the greater trunks or their branches, until these branches commence to ramify in the substance of the brain. Fig. 1, Plate X, shows the distribution of the smaller arterial branches from a larger one situated at the bottom of a sulcus, and indicates very fairly the appearances met with in injected specimens. Had it been drawn more diagrammatically it would have shown better the arrangement by which the brain is supplied at different depths by different systems of arteries. What is apparent at a glance in this picture is the enormous difference between the blood-supply of the grey and white matter. It may be fairly stated that the grey matter receives five times as much blood through-

* 1. "Études sur les Lésions Cérébrales dans le Paralysie Générale." Par M. Mierzejewski, 'Archives de Physiologie,' 1875. 2. "Histology of the Morbid Brain." By Herbert C. Major, 'West Riding Asylum Reports,' 1874.

out its tissues as the white, indicating that the functions of the former are of a more active nature than those of the latter. It will be seen that the larger arteries go direct to the white matter, rarely throwing off branches on their way; that when these have passed through the grey matter they branch off almost at right angles from the original track and follow the direction of the inner layer of grey matter, the various branches communicating freely with each other by short connecting capillaries. The grey matter is supplied by two sets of vessels; the innermost layers by branches of somewhat less calibre than those going to the white matter, which branch off freely in every direction, anastomosing in the most intricate manner by means of loops and convoluted arterioles. These vessels supply all the grey matter, but the five outer layers are specially provided with a system of straight arterioles, smaller in calibre than those already spoken of, which do not seem to give off many branches at any part of their course. The general direction of the main vessels is straight, with few undulations or twists.

The normal condition of the nerve-cells, as they appear in prepared sections coloured by carmine, is well shown in Plate IX, which represents a vertical section through the third frontal convolution magnified 250 diameters. It must be remembered that the largest cells are best marked in the frontal lobes, that they are slightly less numerous in the parietal, and sparsely scattered throughout the deep layers of the occipital; in the latter situation the cells are of a much more uniform size than in any other part of the brain. A well-coloured section of healthy brain cut in the exact transverse direction will show the fountain-like arrangement of the cells, their bases to the white substance and their apices uniformly pointing outwards. The majority of the cerebral cells are pyramidal in shape, and prolong their poles according to Cleland, into the outer or horizontal layer of grey matter. In the deepest layer multipolar cells occur at wide intervals.

The nature and function of the neuroglia (nerve-glue) of Virchow, who was the first to describe it, was, and perhaps still is, the subject of considerable difference of opinion, although anatomical research, and physiological as well as pathological considerations support the views of Virchow and Kölliker that it is a form of connective tissue consisting of a very finely granular reticulum. This is stated to be pierced by

the interlacement of ramified connective tissue corpuscles, or of a network of fine fibres derived from such corpuscles. Besides these Deiters has described flattened and fibrillated cells like those of developing connective tissue. Other observers, Henle, Arndt, &c., hold that the neuroglia is a nervous element.

There are other points in cerebral anatomy which need consideration, and which will be taken up as they suggest themselves in connection with the morbid appearances of the various elements.

It is hardly to be expected that a perfect examination by means of prepared sections can be carried out in all cases; but it is strongly urged that the microscopic examination of fresh specimens should never be neglected, for by it demonstrations of the most important lesions of the blood-vessels and cells can be obtained, and the results of the application of chemical reagents to affected parts noted. Nothing is more simple than the mode of making such examination of fresh specimens; a speck of cerebral tissue taken on the point of a scalpel, or a minute vessel carefully dissected out with needles, should be laid on a slide, and a drop of glycerine and some colouring agent (aniline red) added, and the covering put on, and in the case of the cerebral tissue, firmly pressed down so as to squeeze it out to a thin film; but for all details of histological technology we cannot do better than refer our readers to Professor Rutherford's admirable little book. The introduction of freezing has considerably simplified the details, and shortened the time required for making prepared sections, and by the facilities it affords should encourage more observers to enter the field of microscopical cerebral pathology.

The lesions which have been observed in the brains of the insane, will be considered according as they affect—

1. The membranes. 2. The epithelium. 3. The blood vessels. 4. The neuroglia. 5. The cells. 6. The nerve fibres. 7. The histological appearance of special lesions noticeable by the naked eye will be referred to. 8. The sympathetic ganglia in the neck.

The various changes in the calvarium, bony formations on the falx and other similar morbid conditions will not here be spoken of, as they do not come strictly into the category of histological lesions.

1. **The Membranes.**—(*a*) *Dura mater.*—A thickened condition of the dura mater is comparatively rare. Its microscopic

characters are irregular dilatation and tortuosity of the vessels, the coats of which, especially the outer fibrous one, are much hypertrophied.

(β) *Arachnoid.*—The "milky arachnoid" of the insane has not been thoroughly described as it presents itself under the microscope in transverse sections. L. Meyer has pointed out the existence of fine granulations on its external surface, and Griesinger, under the title of "Hyperæmia of the Arachnoid," alludes specially to the "frequent and spontaneous hæmorrhages into its sac," particularly in "Paralytic Dementia."

The pia mater.—It has been recommended that the pia mater should be removed from brain specimens previous to submitting them to hardening agents, in order to allow the solution to penetrate rapidly and equally. This should never be done, for stripping off this membrane takes away the possibility of observing some most important lesions. The pia mater should, however, be carefully peeled off from such portions of the convolutions as are not to be reserved for hardening, placed on glass slides and cleaned with camel hair pencils, *water alone* being used. It should be noted whether the pia mater adheres to the brain substance in stripping it off. Specimens worthy of retention should be stained with picro-carmine and set up in glycerine jelly. This should never be neglected, as the condition of the pia mater is very frequently an index to that of the subjacent nerve-tissues. A *thickened condition* of the pia mater is of frequent occurrence amongst insane subjects.

In vertical sections the spaces between the arachnoid and pia mater are seen to be widened, and each membrane presents the appearance of distinct lamination. In the spaces distended vessels are to be seen, and not unfrequently the *débris* of extravasations more or less old; in recent specimens the muscular coat of the vessels is to be seen thickened, more especially the circular fibres, which are in some instances immensely hypertrophied. In order to differentiate between the thickening of the coats, it may be well to tint the specimen with picrocarmine, as occasionally both the adventitia and intima have been found thickened. It is of the utmost importance to note the supporting processes of pia mater, which accompany the vessels entering the convolutions. These will be found deeply tinted with carmine for a considerable distance, but the colour gradually fades as the vessel approaches the white matter, where the membrane assumes more and more a hyaline

character, with loss of its fibrillar structure and power of taking up the colouring agent. In recent specimens taken from subjects who have died in the delirium of fever, and in many other conditions, the vessels of the pia mater have been found surrounded by deposits of hæmatoidin. Large aggregations of phosphate of lime have been observed in one case of idiopathic melancholia.*

Thickening of the pia mater is always concurrent with thickening of the arachnoid. It is almost always found on the superior surface of the hemispheres, unless associated with acute general meningitis of the tubercular form. This disease is not more common amongst the insane than the sane. It must be borne in mind that some degree of these changes in the pia mater is by no means uncommonly found in the brains of sane people, more especially in those of advanced age, and probably is to some extent associated with chronic alcoholism in many of these cases.

In all cases of thickened pia mater a finely hyaline appearance is to be seen around the vessels, which by treatment with glycerine and acetic acid, is brought more prominently into view. Sir William Gull and Dr Sutton regard this as a peculiarly characteristic material, a product of a specific morbid process, arterio-capillary fibrosis, of which the contracting form of Bright's disease is merely a local manifestation. They term it the hyaline fibroid membrane. Amongst the insane this appearance is very frequently to be found unassociated with disease of the heart or kidneys. Dr. George Johnson believes it to be merely an artificial product of the action of glycerine and acetic acid on the adventitia, and there is no doubt that these reagents do display this membrane in a remarkable way even in health, yet apart from any such mode of manipulation it may be very distinctly seen. As will be shown further on, a somewhat similar condition is to be found in the internal arteries of the brain, and there is reason for believing that in the pia mater the appearance is due to subinflammatory thickening of the adventitia of the vessels, which condition is brought more prominently into view by the clearing action of acetic acid, and the endosmose of glycerine between the vessel and the enveloping membrane. These agents are not necessary for its demonstration, they only assist. The presence of a hyaline membrane is certainly not confined to cases in which the heart

* 'Brit. and For. Med.-Chir. Rev.,' April, 1873, p. 458.

or kidneys have been affected; on the contrary, it may be found in all cases in which chronic hyperæmia of the pia mater has existed.

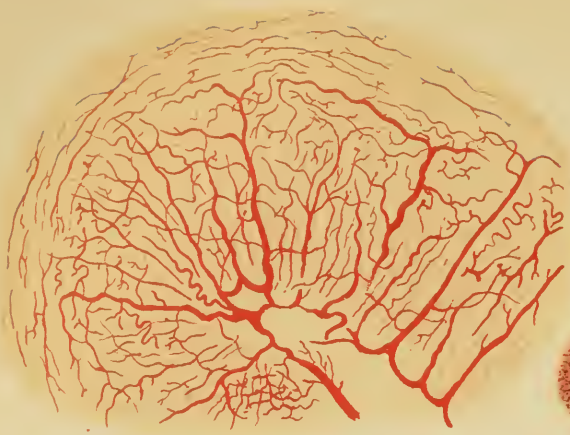
2. **Epithelium.**—The "ground glass" appearance which so frequently presents itself to the naked eye on the floors of the lateral and fourth ventricles in cases of General Paresis, and in those where chronic Mania has been a leading symptom, is the result of three different morbid conditions, which, taken in the order of their frequency, are changed epithelium, lymph exudations and crystalline deposits. The two former conditions are always associated with evidences of hyperæmia or inflammation. The neighbouring vessels are twisted and contorted, and show well-marked hyaline sheaths, the brain substance is indurated and the fibres are thickened. They not unfrequently occur together, and in some instances are accompanied by large numbers of amyloid bodies which extend for some considerable distance inwards. When change of the epithelium is the cause of the granulations a vertical section shows simply a thickening of the ependyma, resulting from proliferation of the epithelial cells, which protrude into the cavity of the ventricle, somewhat resembling villi. When lymph exudations have pushed the ependyma upwards it presents the appearance of rough, irregular, bullæ-like nodules, consisting of the layer of proliferated epithelial cells and a greenish homogeneous stroma, which together overlie the brain matter; frequently deposits of the same material can be seen infiltrating the subjacent cerebral tissues. Deposits of phosphate of lime beneath the ependyma of the lateral ventricles have been recorded as occurring in a case of General Paresis. Bergmann discoved a formation of pretty large crystals of "double phosphate" in both plexus choroidei in a case of "Mania with mental weakness."*

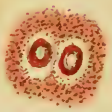
Where granulations occur on the surface of the convolutions they usually depend on changes in the granular layer, or on lymph exudations.

A proliferation of the columnar epithelium of the central canal of the medulla oblongata is of not unfrequent occurrence, occluding it at points where in health it is patent.

3. **Blood-vessels.**—We believe that the examination of the vessels of the brain in cases of insanity is of primary importance; and, further, we are of opinion that in every case careful search will show that morbid changes take place in one or other of

* 'New Sydenham Society's translation of Griesinger,' p. 429.





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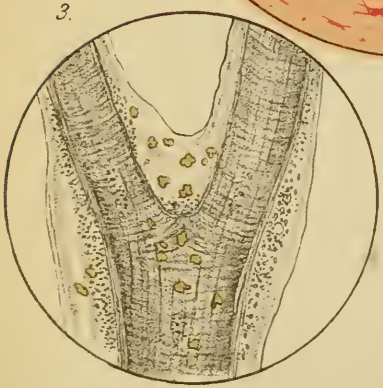

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their component parts, and in the severer and more lasting forms of Insanity we find, as we might expect, very well marked deviations from health in every one of their coats. When we glancea gain at the picture (Plate X, fig. 1) which represents the normal condition of the finer circulatory apparatus in the cerebral lobes, we cannot fail to realise what a very vast and important influence the blood supply must have over the functions of the organ, and when we recollect that the blood-vessels by the intermediation of their adventitial coats are in direct connection with the connective tissue of the parts, we see how they must inevitably take part in all the changes which that connective tissue undergoes. But changes in function precede changes of structure recognisable by our present means, and it is in their functional perversion that we must trace the first link in the chain of events which leads to functional derangement in the nerve elements themselves, and secondarily to structural changes, the result of altered or impaired nutrition. If these abnormalities of blood supply are of long continuance we may justly anticipate permanent lesions of cells, fibres, and nuclei, and, phenomenally, chronic Insanity in one or other of its forms.

In all autopsies of insane persons special attention should be paid to the naked-eye appearances of the vessels of the centrum ovale; the degree of engorgement or anæmia must be noted, and most particularly whether they are dragged out by the passage of the knife. Vessels of moderate size should be dissected out (not dragged out), washed carefully with water and a camel-hair brush so as to clean them from brain matter, and submitted to the microscope. By this mode of procedure certain of the following morbid changes will be discovered.

a. Thickening of one or other of the coats.

β. A thickened condition of the sheath and hyaline membrane.

γ. Deposits between the adventitia and the sheath.

δ. Proliferation of nuclei.

ε. Vitreous degeneration of the coats.

a. *Thickening of the coats.*—The *inner fibrous* coat has been found in some rare instances considerably thickened, and more distinctly fibrous than in health.

Hypertrophy of the *muscular* coat has been frequently observed. In extreme cases the circular fibres can be seen increased to fully three times their normal thickness. Treatment

of the specimen with a carmine solution brings out their peculiarities with great distinctness. Plate X, fig. 2, represents these appearances in a transverse section. It may be generally stated that this hypertrophy is best marked in those who have been the subjects of diseases implying hyperæmia, *e.g.* General Paresis and Epilepsy. It is found in senile cases although to a less degree. Hypertrophy of the heart does not appear to be a *necessary* cause or accompaniment.

The adventitia and intima are occasionally found thickened. In some cases the arteries have been found more or less thickened as to their muscular coats, and more especially as to their outer fibrous coats, the effect of which is completely to occlude the vessels in many instances, and in all very materially to modify their calibre. As these vessels were found in subjects whose clinical history gave a distinct account of long-standing syphilis, they were regarded as probably syphilitic, but in the present position of the question of syphilitic arteritis, and in the absence of anything absolutely histologically characteristic of syphilis in their appearances, we express ourselves with some reserve as to their actual nature.

β. The *hyaline* membrane not being enumerated amongst the normal coats of the arteries in systematic works on anatomy is the reason why it is here considered separately. In many cases of chronic Insanity, if the vessels are treated in the manner described above, there will be seen a loosely enveloping membrane, apart from the adventitia, clear, homogeneous in structure, uncolorable by carmine, fibroid in consequence of longitudinal puckerings, forming triangular sacs at the bifurcations, and retaining between it and the adventitia various morbid deposits (Plate X, fig. 2, *a*). In prepared sections the pia mater can occasionally be traced entering with a vessel, deeply coloured by carmine, till it has passed through the grey matter and then becoming hyaline and unamenable to colouring agents. In sections of morbid brain in which the arteries have been cut longitudinally a similar membrane can be seen, non-fibrillated and non-fenestrated, occupying vascular spaces, and in which fibrous and muscular coats do not exist on account of the thinness of the preparations. It is difficult of demonstration in healthy subjects, although this has been effected by Lockhart Clarke, Robin, His, and others, but when thickened by disease this difficulty is to a great extent overcome. Rindfleisch says that, although the arteries of the brain are usually said to enter

naked, it is inexcusable for any one familiar with the morbid anatomy of that organ to overlook the "sheath of connective tissue," which, however slender, surrounds its arteries. Obersteiner supports this view. In a beautiful series of preparations in our possession taken from the same subject, its various conditions can be traced. A very acute and accurate observer, Dr Herbert Major, has noticed its occurrence in cases of "Chronic Brain Wasting." The only objection to the term "hyaline membrane" is that it is suggestive of its being a pathological addition; the whole of the evidence available seems to indicate that it is only the normal prolongation of the sheath which the artery derives from the pia mater, but which in health is difficult of demonstration on account of its gossamer texture, but which when altered by disease, or the physiological changes of old age, is readily brought into view.

γ. *Deposits between the adventitia and the sheath.*—As a rule morbid deposits should be searched for at the bifurcations of vessels, as they are apt to collect in that situation in consequence of the triangular sacculation of the sheath. Plate X, fig. 2, represents the two forms in which they are met with. Neither of these appearances is confined to cases of Insanity; they have been found in the vessels of subjects who had died in the delirium of fevers and the coma of Bright's disease, and we have seen masses of hæmatoidin in immense quantities around the cerebral vessels of a lad who died of hæmophilia. As observed, the deposits are of two sorts—the first a very purely molecular material (*a*); the second irregular crystals of hæmatoidin (*b*). The purely molecular material is to be found in the smallest capillaries, in which position it strongly resembles the spores of the favus fungus; viewed by the highest powers it is homogeneous in structure, of a pale yellow or brownish tint, more commonly colourless; its individual particles possess highly refracting powers, are round, varying in size from $\frac{1}{4000}$ to $\frac{1}{7000}$ of an inch in diameter, and occasionally even smaller; their appearance strongly suggests that they are of a fatty nature, but the application of tests for oil has failed to produce any change. From observations on the cerebral vessels of young animals in which this appearance was absent, it is not likely that it is the result of decomposition; from its gradation in intensity according to the health or morbidity of the subject, "the strong probability is that this deposit is the result of transudation, which in a small degree takes place during the process of death

in all cases, and to a greater extent during life in subjects who have suffered from frequent congestions, or whose blood-vessels have been otherwise weakened."*

Crystals of hæmatoidin, the second form of deposit, are almost invariably found on the cerebral vessels of insane subjects; they are irregular in shape, their angles rounded as if smoothed by attrition, and they are distributed pretty equally over the vessel except at the bifurcations, where they are aggregated.

It cannot be said that either of these deposits is peculiar to any one form of Insanity.

δ. *Proliferation of the nuclei of the walls of vessels* is a frequent and well-marked appearance. It seldom exists apart from proliferation of the nuclei of the neuroglia, and is often associated with grey degeneration. Plate XI, fig. 1, *a*, shows the degree to which this condition can attain. The nuclei do not seem to increase in size to the same extent as those of the neuroglia, but they have a greater tendency to become oval or irregular in shape.

Dr Meyer believes that there are actually cells, not nuclei, in the walls of the vessels. Some authors have described a spiny condition of the capillaries produced by numerous filiform appendages, or by the prolongations of the cells of the connective tissue touching their walls and giving rise to this appearance.

ε. Vitreous degeneration of the coats of the small blood-vessels has been described by M. Mierzejewski in General Paresis, and is figured in Plate XII, fig. 2.

Prepared sections are necessary for the demonstration of the following abnormalities of vessels:

ζ. Microscopic aneurisms and apoplexies.

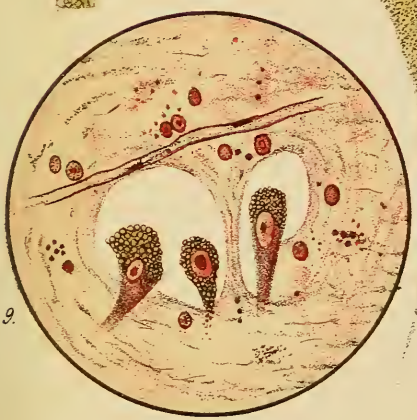
η. Abnormalities of direction.

θ. Pigmentation of arterioles.

ι. A dilated condition of the brain surrounding the vessels.

ζ. *Microscopic aneurisms* have been observed in the pia mater, the corpora striata, and the substance of the hemispheres, in the latter position in the neighbourhood of apoplectic cysts. In the corpora striata they can exist in considerable numbers, fusiform in shape (Plate X, fig. 4), and containing blood-clots. In rarer instances they are sacculated. In size they vary from $\frac{1}{30}$ to $\frac{1}{40}$ of an inch in length, and their breadth is about one fourth of their

* 'Med.-Chir. Rev.,' April, 1873, p. 455.



C. Berjeau, lith.

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length. All the coats of the distended vessels are thickened to a great degree (Plate X, fig. 4). MM. Bouchard and Charcot* have studied these aneurisms very carefully in their relation to cerebral hæmorrhage. They believe them to be due to what they term a "sclerous arteritis," which seems to be identical with the periarteritis of Rokitansky. Under this condition they describe a thickening of the fibrous coats attended with proliferation of the nuclei, and atrophy of the transverse muscular striæ. They figure the commencement of the aneurism as an ampullation of the diseased vessel, which eventually assumes the form of a pedunculated sac. In rarer instances they speak of the aneurisms being simply fusiform. We must refer the reader, however, for the full particulars to their interesting and important treatise.

Microscopic apoplexies are common in General Paresis, and one is figured in Plate X, fig. 5.

Dr Charlton Bastian and Dr Blandford have described plugging of the vessels by minute embolic masses composed of aggregrations of white corpuscles in cases of acute Mania and Delirium. Ecker has measured the small cerebral vessels of the grey matter in various forms of Insanity, the result being, that "in cases of Mania" they are generally found dilated, and Ramaer noted the same condition in the vessels of the pia mater. Dr Major describes a dilatation of the arteries in "brain wasting."

η. *Abnormalities in direction.*—Deviations from the normal course of the vessels may take the form of extreme tortuosity or actual kinking, and are evidences of frequent congestions: this condition has been observed in cases of General Paresis, and has been regarded as a compensatory arrangement for the absence of hypertrophy, a lesion rarely met with in this disease, This theory is doubtful. All elastic tubes, when pressure is put upon their walls, greater in intensity than they were intended to bear, have, on its relaxation, a tendency to kink and convolute. This is more especially true of tubes composed of any *fibrous* elastic tissue, so that it seems more than probable that the overstrained straight vessel of the cerebrum when relieved from congestion becomes tortuous or even twisted upon itself.† Contorted vessels are often seen lying in distended vascular

* See translation by Dr Maclagan, 'Study of some Points in the Pathology of Cerebral Hæmorrhage.' Maclachlan and Stewart, Edinburgh. 1872.

† Tortuous vessels have been observed in chronic Bright's disease.

spaces containing the hæmatoidin deposits already spoken of. A drawing of such a twisted vessel surrounded by nuclei is seen in Plate XII, fig. 3.

θ. The arteries as they enter the cerebrum from the pia mater are occasionally seen covered with *pigment* up to the actual point of entry. As this condition is always associated with the *débris* of old apoplexies between the membrane and the outer layer, the pigmentation is in all probability due to their disintegration. It bears a very marked resemblance to the pigment deposited on cells.

ι. The consideration of the *dilated condition of the brain substance surrounding the vessels* opens up important physiologico-anatomical questions in addition to those purely pathological. The "perivascular canals" were described by His as the lymphatics of the brain. Professor Laycock taught that the pia mater is a great lymphatic gland, and it is held by some that, if only by a logical process of exclusion, the spaces between the vessels and the brain substance must be regarded as the overflow conduits. If we accept the observations of Dr Goodfellow, a similar relation exists in the cornea, and more recently E. B. Kiber and Tomsa have expressed an opinion that there is a system of lymphatics surrounding the vessels of the spleen. Obersteiner supports His and Robin in the theory of cerebral perivascular lymphatics, and even goes so far as to assert that he has observed lymph corpuscles in the canals. He goes even further and asserts the existence of a direct lymphatic connection between the cells and the perivascular canals by means of "spur-like" processes. This Obersteiner believes he has proved by direct injection, the results of which he has figured.* There cannot be a doubt that were this point in anatomy definitely settled, it would afford grounds for many tangible theories as to the causation of perverted brain action. In a canal which comprehends the main and the overflow, the patency of the latter must be occasionally interfered with in consequence of the liability of the elastic main (the artery) to congestive dilatation. From the post-mortem appearances afforded by the examinations of subjects who have died in a state of acute Mania, we gather that hyperæmia and congestion have been present during life. Experiments on animals have shown that when death has been caused by strangulation, which, of course, implies cerebral congestion, the coats of the vessels are in direct apposition with the

* 'Wien Stzb. d. k. Akad. Wissener,' bd. lxi, 1 abth., Jan., 1871.

surrounding cerebral substance. If we correlate these facts, at the same time admitting, for the sake of argument, the existence of perivascular lymph spaces in the brain, it is evident that during congestion the overflow pipe must be occluded, and the waste matter, which when unremoved has in all organs a morbific power, must in the brain exercise a toxic influence, which might account for many of the mental phenomena of Insanity. It must be admitted that the various deposits which have been observed lying between the sheath and the adventitia are strongly suggestive of a passage for the removal of waste products. It is doubtful, however, to what extent observations founded on forcible injection can be depended upon. In the brains of recently killed animals no space can be seen unless death has been caused by hæmorrhage, in which case a distinct canal is observable around the *empty* vessel. In subjects who have been liable to cerebral congestion spaces can also be seen; in fact the vascular canal is distinctly dilated to an extent several times the calibre of the vessel; the cerebral wall is indurated and has attached to it the sheath, on the inner surface of which lymph exudations exist in considerable quantities, and the adventitia is often attached to the sheath by fine trabeculæ, (the spur-like processes of Obersteiner?). Taking everything into consideration we are compelled to the conclusion that the evidence of the existence of perivascular lymph spaces is still imperfect; in the consideration of this subject we must place great stress on the probable artificial or morbid causes for the production of such canals. According to Eberle, His has abandoned his theory. For recent contributions to this subject see 'Pathologische Veränderungen in den Lymphraümen des Gehirns,' by H. Josionck.*

No difference has been detected between atheromatous deposits in the sane and insane.

4. **The Neuroglia.**—This substance is liable to various forms of disease, for the demonstration of which prepared sections are requisite. The neuroglia has been observed generally and locally increased, generally decreased in quantity, and its nuclei have been found undergoing morbid changes. These conditions have been named—

a. General sclerosis.

β. Disseminated sclerosis.

γ. Atrophy.

* 'Archiv der Heilkunde,' Bd. xix, Heft 3, p. 223, 1878.

δ. Miliary sclerosis.

ε. Colloid degeneration.

α. Up to the present moment the belief in the existence of a *general sclerosis* of the neuroglia depends on the report of one case, which is fully detailed in the 'Journal of Anatomy and Physiology,' May, 1873. In a hydrocephalic epileptic idiot (whose brain weighed sixty ounces), the hemispheres were found varying in weight; the left being $23\frac{1}{2}$ ounces, the right $30\frac{1}{4}$ ounces. In the heavier or hypertrophied side the nerve-fibres were found lying in fasciculi consisting of from four to six strands.* These fasciculi were separated from one another by a clear, finely fibrillar plasm in which nuclei existed in numbers somewhat larger than normal. The general theory of the paper is that the hypertrophy of the right hemisphere was due to an increase of the neuroglia, and it is suggested that the bulging brain which is occasionally met with in epileptics is caused by the same species of sclerosis; also that the large skulls of hydrocephalic dwarfs may be filled with brains similarly affected.

β. *Disseminated sclerosis or grey degeneration* is a lesion frequently met with in the brains of the chronic insane. Its most frequent seat is the white matter of the motor tract, less frequently it is met with in the hemispheres. In the pons Varolii, medulla oblongata, and spinal cord of epileptics, patches of this disease are of common occurrence, and in an extreme degree. When a fine section of nerve-tissue affected by this disease is examined by the naked eye, circumscribed opaque tracts can be seen, evidently of a nature different from the general structure. In coloured sections these tracts remain untinted. As a rule they will be found contiguous to a vessel or vessels whose nuclei are much proliferated, and around which considerable proliferation of the nuclei of the neuroglia exists. "In brains in which considerable proliferation of the nuclei is found, careful search will, in the majority of cases, enable the observer to discover opaque tracts, which refuse to become amenable to any clearing agent; these being submitted to the microscope, after immersion in glycerine, will be found not to present the normal histological appearances; the nerve-fibres are atrophied partially or completely, according to the stage of the disease; in transverse sections the axis cylinders, and sheaths are destroyed, and the field is occupied by a finely molecular and fibrillated material

* See woodcut, loc. cit.

imbedded in a cloudy homogeneous plasm. In this matrix the proliferated nuclei exist, somewhat enlarged, sometimes slightly granular in appearance; but around the implicated spot they are to be seen in much greater quantity and not actively diseased. The atrophied nerve-fibres occasionally project raggedly into the grey tract where they are lost."* Plate XI, figs. 1, 2, 3, and 4. There exists considerable difference of opinion as to the origin and nature of the change. Rokitansky believes that it is essentially an increase in the amount of the "connective tissue" (neuroglia) with proliferation of its nuclei, and that the homogeneous matrix which surrounds them is increased in quantity and becomes fibrillated, this condition causing pressure on the nerve-fibres and their consequent atrophy. Leyden refers the earliest change to an atrophy of the nerve-fibres, and the increase of the neuroglia in compensation for their loss. Rindfleisch and others are of opinion that the first stage is marked by proliferation of the nuclei of the vessels, which is followed by increase of the nuclei of neuroglia and the development of a morbid plasm which is, in all probability, modified neuroglia. So far our views coincide with his, but in numerous cases examined, nothing like nucleated cells, such as he has described, has been detected in the diseased tracts.

γ. *Atrophy of neuroglia* is found in extreme cases of Senile Insanity; its naked-eye appearances are well known. Under the microscope sections of such brains show a general disintegration of the various elements. The cells are deficient in number and deformed, the fibres are thickened and coarse, and the neuroglia does not exist in such quantities as to maintain the normal relation of parts; it is, in fact atrophied, and the general texture of the section suffers from the absence of the interstitial substance.

δ. *Miliary sclerosis.*—For the full details of this remarkable lesion the reader is referred to the 'Edinburgh Medical Journal' for September, 1868, and to the 'Brit. and For. Med.-Chir. Rev.,' July, 1873. From these two sources the following *résumé* is taken. Miliary sclerosis differs from all other forms of sclerosis in that it is not necessarily preceded, attended or followed by any proliferation of the nuclei; that it is a circumscribed lesion not involving surrounding tissues, except so far as it displaces nerve-fibres, that no morbid plasm is diffused

* 'Brit. and For. Med.-Chir.,' July, 1873, p. 203.

beyond its own area, and that it is in no way connected with the blood-vessels. It is essentially a disease of the nuclei of the neuroglia of the white matter, and its progress is marked by three stages. In the first, a nucleus becomes enlarged and throws out a homogeneous plasm of a milky colour and apparently of a highly viscid consistence, for the long axis of the spot is almost always in the direction of the fibres, which are displaced by its presence instead of being involved by it; thus indicating that its density is considerably greater than that of the cerebral matrix. In the centre of these semi-opaque spots a cell-like body is generally discernible, possessing a nucleus—the original dilated nucleus of the neuroglia. During the second stage of development the morbid plasm becomes distinctly molecular in character and permeated by very fine fibrils. Plate XI, fig. 5, indicates the appearance of miliary sclerosis in the second stage when viewed by a power of 120 diameters. It is probable that at this period a further displacement of the contiguous tissue takes place, as a degree of induration of the compressed fibres and vessels which curve round the diseased tract is indicated by the increased amount of colouring material which they absorb.

Under a low power, and by direct light, these patches have a somewhat luminous pearly lustre; when magnified 300 diameters they are seen to consist of a molecular material with a stroma of exceedingly delicate colourless fibrils; they vary in size from $\frac{1}{40}$ to $\frac{1}{1500}$ of an inch in length, and have a distinct outline. They are generally oval and unilocular, occasionally bilocular, and more rarely multilocular. In the advanced condition of the second stage the plasm is more dense at the circumference than at the centre of the spot, and a degree of absorption of the nerve-fibres around it takes place. When a section is removed from spirit and dried, the nervous elements shrink, and the diseased nodules either drop out or can be picked out easily with a needle. These nodules are not gritty, they are not acted upon by hydrochloric acid, boiling alcohol, or ether. When pure nitric acid is added, in addition to a series of remarkable changes which are fully detailed in the original paper, the spots of disease and the surrounding tissues become clearer. It is still doubtful whether this lesion can be made out in recent specimens; with prepared sections, however, it is readily seen.

In the third stage the molecular matter contracts on itself,

becomes more opaque, and often falls out of the section, leaving ragged holes.

This disease is of common occurrence in one or other of its stages; it has been observed in various parts of the brain, and it is not confined to any one class of mental disease, although it has been found best marked in Insanities accompanied by Paralysis or Epilepsy.

ε. *Colloid degeneration* may be either a primary or secondary product, that is to say, there is reason for believing that in certain forms of Insanity it is the primary pathological change, and that it is also to be met with in the brains of chronic cases as a result of long-continued perverted vascular action. This degeneration should be searched for in recent specimens. When found in the fresh brain it is seen to consist of round or oval bodies from $\frac{1}{4000}$ to $\frac{1}{2000}$ of an inch in diameter, bounded by a distinct wall, containing a clear homogeneous plasm, which is transparent and colourless. The contents are sometimes somewhat granular. In prepared sections, colloid bodies are occasionally found filling the whole field of the microscope (Plate XI, fig. 6), and the general appearance of the section may be best compared to a slice of cold sago pudding. Colloid bodies cannot be coloured by carmine, and sections in which they exist to any large extent do not take on more than a very pale pink tint.

This lesion may be regarded as a degeneration of the nuclei of the neuroglia, and is found in both white and grey matter. It has been traced through various stages from simple enlargement to the extreme condition figured.

It is not necessarily connected with proliferation of nuclei and is believed to be one of the most important of cerebral lesions.

5. **The Cells** are liable to the following morbid changes:

α. Pigmentary, granular, or fuscous degeneration.

β. Calcification.

γ. Hypertrophy.

It is of the utmost importance to seek for these lesions in recent specimens; prepared sections have doubtless great interest in confirming fresh brain observations, but they should not be solely depended on. The grey matter of the convolutions should be examined as soon as possible after death, not more than twenty-four hours being allowed to elapse; thin slices should be taken and successive portions from without inwards

submitted to the microscope after being gently pressed out under a covering-glass.

a. Pigmentary, granular, or fuscous degeneration was first described by Meschede (Virchow's 'Archiv,' 1865), and Lockhart Clarke ('Lancet,' Sep. 1st, 1866). Poincaré and Bonnet ('Annales Médico-psychologiques,' Sept. and Nov., 1868) point out the frequency of this lesion in General Paresis. In a short paper by Dr Howden, of Montrose, is contained the best account of granular degeneration of cells as observed in this country. Dr Howden does not regard it as specially confined to General Paresis. To quote his own words—"In all cases of long standing Insanity, the cells of the grey matter of the cerebrum present a granular appearance,* this appearance is most intense when the mental excitement has been most severe and long continued, as in General Paralysis, epileptic Mania, and remittent Mania; it is always accompanied by a deposition of granules of hæmatoidin outside the walls of the capillaries and smaller vessels, and usually by deposits of free granules scattered through the grey substance. A careful examination with a variety of magnifying powers inclines me to think that, in many instances, the granules are deposited, not *inside* the cells, but *around* them, as the hæmatoidin is around the blood-vessels; and I have sometimes noticed them scattered along the fibres coming from the multipolar cells. The granules are unaffected alike by sulphuric ether and strong alkalies. In extreme cases the cell becomes converted into an opaque yellow, horn-like body, in which no trace of a nucleus can be detected." We believe that this granulation deposit occasionally, although rarely, commences around the nucleus and gradually extends to the periphery. Under any circumstances the nucleus is the last part to suffer. We agree with Dr Howden in thinking that these granulations are not of a fatty nature. In Plate XII, figs. 4, 5, 6, 9, and 10, show the various stages of this change. The cells of Purkinje have not as yet been observed to be similarly affected.

β. Calcification of the cells has not come under our notice. It is alluded to by Blandford as having been observed by certain pathologists.

γ. Hypertrophy of cells.—Drs J. Batty Tuke and Rutherford in a paper read before the British Association in 1870, pointed out that in cases of Senile Insanity where the cells of the outer

* It must be remembered that in the most healthy subjects a degree of granular deposit exists in the cells of the cerebrum.

layers had undergone atrophy, the cells of the two internal layers appeared to be much increased in size. Dr Major ('West Riding Lunatic Asylum Reports,' vol. iii, pp. 109-10) speaks of an inflated condition of the cells which closely resembles that described by the above-named observers. Examination of a long series of specimens will show a considerable difference in the size of the cells of the inner layers. It is possible that the term hypertrophy may not be strictly applicable, it is intended to indicate a more than normal fulness and distinctness of the cell, the cause of which, however, is as yet undetermined. We have in our possession sections of spinal cord taken from a case of violent epileptic Mania, in which the multipolar cells are to be seen, with their poles as distinctly defined as in the diagrammatic drawing in Virchow's 'Cellular Pathology,' p. 260. The least practised observer must recognise that such a condition is beyond normality.

6. In **Nerve-Fibres** differences will be found as to their power of resisting pressure; in some cases they retain their normal condition under the covering-glass, in others they become readily ampullated; this does not depend on decomposition, as the observation has been made on various brains at a period not more than twenty-four hours after death, but would seem to indicate differences in the consistence of the fibres in the various cases. The degree of ampullation of nerve-fibre is noteworthy.

A peculiar morbid product, the nature of which has not as yet been definitely ascertained, is often found scattered throughout the substance of the hemispheres and corpora striata (Plate XI, fig. 7), and on the surface of the medulla oblongata and the hemispheres bound down by the pia mater. These have been termed amyloid bodies. They bear no special resemblance to starch corpuscles, and opinion is divided as to whether they have any reaction with iodine. Virchow holds that these bodies are normal or at least the result of natural decay, but their presence in such great numbers in brains which have suffered from very acute diseases, suggests that they are actual morbid products, probably due to the formation of moniliform swellings on the axial cylinder prolongations of the nerve cells, or on nerve fibres, as shown in Plate XII, fig. 7, which in their more decided and isolated shape are seen in Plate XII, fig. 8.

Special Morbid Conditions of the Grey Matter.—In many subjects where the pia mater is found thickened, hyperæmic and

closely adherent to the cineritious substance, whatever may have been the nature of their symptoms or disease, the five outer layers of grey matter will be found to have undergone a change more or less implicating their structure. In extreme cases these layers will be found presenting none of their normal characteristics, the cells are absent, the continuity of the fibres is destroyed, and their place is taken by a plasm closely resembling that of grey degeneration in the white matter. The absence of proliferated nuclei indicates a difference of genesis, and the general appearance is suggestive of infiltration of lymph, which has gradually caused atrophy and absorption of the normal structures.

In circumscribed spots or ulcers of yellow softening, vertical sections show ragged fibres, colloid bodies, and granular corpuscles in the base of the diseased tract. As no species of tumour of the brain peculiar to Insanity has been observed, it is unnecessary here to enter upon the general subject.

The cells of the sympathetic ganglia of the neck are liable to pigmentary granulation. Poincaré and Bonnet attach considerable importance to this condition in relation to General Paresis. It has been found well marked in other forms of cerebral disease.

The *fatty* degeneration of the various brain elements so frequently spoken of by certain histologists must be taken *cum grano*. Doubtless, there are many appearances noticeable in the cells and vessels which are very strongly suggestive of their being of a fatty nature, but it will be found that the application of the various tests for oil fails to produce any evidence of its presence. The "free oil globules" in the substance of the convolutions are, we think, scattered *débris* of granular cells.

No attempt can be made, in the present state of our knowledge of cerebral histological pathology, to localise lesions. All that can be safely said on this subject is that the convolutions of the vertex and those immediately bounding the great longitudinal fissure are the chief seats of disease. As we examine the more dependent convolutions we find fewer and fewer indications of morbid action. In searching for cerebral lesions, we may be guided to a very great extent by the naked-eye appearances presented by the arachnoid and pia mater; where these membranes are seen thickened or clouded, the subjacent cerebral substance is invariably diseased. The experience of every pathologist must confirm the statement that these condi-

tions (except under such special circumstances as tubercular meningitis) are in ninety-nine cases out of a hundred confined to the superior convolutions. The vertex, that is to say, the upper fourth of the ascending parietal and ascending frontal convolutions, will be found to be the *locale* of the most definite manifestations of disease.

We shall conclude this chapter by giving a short account of the microscopical appearances in General Paresis and Senile Dementia.

General paresis.—The lesions observed may be conveniently divided under three heads.

1. Those of the vessels. 2. Those of the neuroglia. 3. Those of the nervous elements.

Vessels.—These are the most constantly and earliest affected in this disease, not indeed everywhere to an equal degree, but the process is general throughout the brain. The earliest change is an increase of nuclei in the capillary walls, and under the adventitia of the small vessels (Plate XII, figs. 1 and 2), later miliary aneurisms (Plate X, fig. 4), small hæmorrhages and rupture of the walls of the vessels are frequent (Plate X, fig. 5); the capillaries become thickened, and undergo a vitreous transformation (Plate XII, fig. 2); finally, they are destroyed by fatty degeneration. New vessels are believed to be formed, as the capillaries present appearances like those seen in the tail of the tadpole. Nuclear proliferation is most marked in the adventitia, but the transverse and longitudinal nuclei of the middle and inner coat participate; sometimes red corpuscles are also seen, and there are chronic inflammatory processes and deposits of pigment granules in the adventitia. The vessels become twisted. A spiny or furred condition of the capillaries is often seen.

Interstitial tissue.—The changes in this may be observed in three stages. In the first there is increase of the neuroglia nuclei, these nuclei varying in shape and in their conduct towards colouring agents, some staining deeply, others very feebly (Plate XI, fig. 4). In the second stage, the white matter is invaded by patches of amorphous, homogeneous, opaque matter of irregular form, unequal surface, and vacuolated; they have badly defined margins and take up carmine readily. They contain many nuclei, and from the margins filaments ramify to form a network; sometimes these areas correspond to the course of a blood vessel. Later on they contract, their centres become

well defined, the radiating filaments become transformed into ramiform prolongations (Plate XI, figs. 1, 2, and 3). These areas are no doubt what have been described as giant cells, small inflammatory foci consisting of numerous nuclei resolved together by coagulated fibrine. In the third stage, the nuclei of the neuroglia atrophy, diminish in size and become angular in outline.

Nerve cells and fibres.—The nerve cells are often surrounded by numerous nuclei, and often by fibrine, they are frequently vacuolated and increased in size; at other times they are more slender than normal. Their protoplasm becomes dim, less transparent, and the whole cell colours strongly with carmine (Plate XII, fig. 9). Later on the cells become filled with brown or yellow molecules; the nuclei become disintegrated. Other cells increase in volume, become filled with a pale granular matter insoluble in ether, and lose their power of taking up carmine (Plate XII, fig. 4). Their processes undergo similar destructive changes, the axis cylinder prolongation being the most resistant (Plate XII, figs. 7 and 8). In some cases they present oval enlargements and are often ribbon shaped (Plate XII, figs. 5 and 6). These oval bodies may be found separated from their connection with the cells.

These appearances warrant one in regarding General Paresis as a chronic diffuse inflammatory process, affecting primarily the interstitial tissue, but followed by secondary degenerative processes in the essential nervous elements.

Senile Dementia.—The lesions may be similarly divided to those in General Paresis—

The vessels.—These are frequently atheromatous; the arteries and capillaries are dilated; their sheaths are loaded with pigment but their coats are not thickened; the perivascular spaces are dilated and the surrounding brain tissue atrophied. Miliary aneurisms may be present.

The Interstitial tissues.—The most marked changes are those of atrophy; the neuroglia loses its finely reticular appearance, and appears broken down in patches within which only molecules and nuclei can be detected. The nuclei are somewhat increased and collected in groups; in some cases they are shrivelled and deformed.

The cells and fibres.—The cells are found changed throughout the depth of the grey matter, but the large pyramidal cells show the lesions most marked; the processes are best observed in

1.

2.

3.

4.

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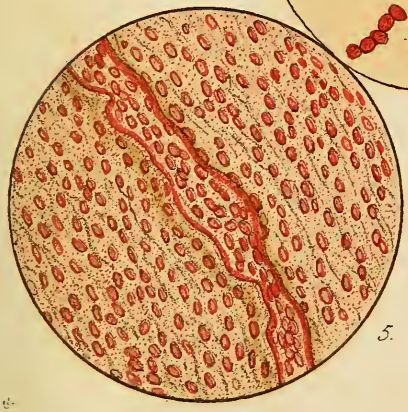
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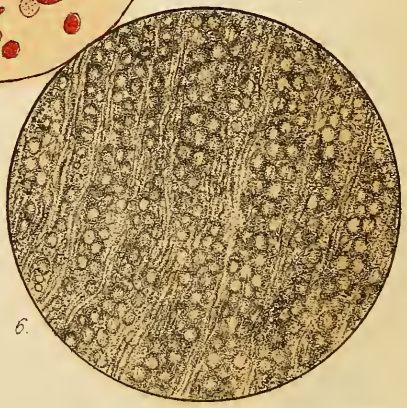
6.

C. Berjeau, lith.

Waterston, Sons & Stewart, Lith^rs Edin^r

the frontal and parietal lobes. The essential change is granular degeneration going on to complete molecular disintegration of the nerve cells. In the first stage, they lose their sharply defined outline and become swollen; the processes become broken off, all except the peripheral prolongations, which gives the cell a rounded appearance; the nucleus becomes swollen, and the nucleoli appear with greater distinctness; the cell loses its natural pigment and ceases to take up colouring matter. In the second stage the protoplasm of the cell becomes invaded by granules which render it opaque; these are sometimes collected on one side pushing the nucleus from its position and deforming the cell contour (Plate XII, fig. 10). Lastly, the cell becomes completely filled with yellow granules, shrinks, breaks down, and leaves its nucleus surrounded by a heap of granules. In the third stage these granules are replaced by darker ones, insoluble in ether. The nerve fibres throughout are coarse, twisted, irregular, and sometimes broken up. These appearances warrant Dr Major's view that Senile Dementia consists essentially in primary atrophy of the nerve cells. The changes everywhere are those of atrophy, without any trace of inflammatory processes having preceded them.

This concludes the account we can give of the present state of the morbid histology of Insanity. The subject is still in its infancy. It is only by the accumulation of a vast mass of careful observations, that advances can be made. Past experience has shown that this can only be done by microscopical investigation. The history of the morbid anatomy of spinal diseases is one to which we may point as an instance. Without the microscope, bulbar paralysis, infantile paralysis, and progressive muscular atrophy, would be still regarded as essential diseases.

By the microscope only can the problems of the morbid anatomy of Insanity, be properly elucidated, and we would urge upon all engaged in the care and treatment of the insane to contribute their individual efforts to further our knowledge of these important questions.

CHAPTER VII

TREATMENT OF INSANITY

General Observations.—The treatment of Insanity may be considered under three heads or intentions—the Hygienic, the Moral, and the Medicinal. These domains of medicine, indeed, are by no means so distinct that it is always possible to say of means resorted to with a curative intention, whether their influence belongs to one or the other. Thus, the removal of a patient from home may be hygienic, inasmuch as it removes him from the causes of disease—and moral, inasmuch as it produces novel mental impressions, which are often of much service in the treatment. A blister to the nape may be thought purely medicinal; but there can be no doubt that sometimes its moral effect is not insignificant by attracting the attention of the patient from a morbid idea to a new sensation. The three intentions are, however, sufficiently distinct to render their separate indication useful in classifying the various means employed in the treatment of mental diseases.

The sufficiency of the moral treatment of Insanity is maintained by some authors, in support of the spiritual hypothesis of the nature of Insanity. It emanates from, and is consistent with, this hypothesis—whose most able exponent was no less eminent a person than the late Dr Mayo, President of the Royal College of Physicians. But it is Dr Leuret, a French Physician, who with that hardihood of logic which so frequently distinguishes his countrymen, has carried this opinion into practice, in a treatment of his patients respecting the moral character of which there can be no doubt. He combats delusions with stern rebuke and severe punishment; in fact he applies to his patients, at the present day, the same principles of treatment as those which are recorded in the pages of 'Don Quixote,' in the case of the madman of Cordova who ceased to persecute street dogs after he had been well beaten for his cruelty. Whipping luna-

tics in the good old times was not confined to Spain. Shakespere makes Rosalind say—

"Love is merely a madness; and I tell you deserves as well a dark house and a whip as madmen do: and the reason why they are not so punished and cured is, that the lunacy is so ordinary, that the whippers are in love too."

In 'Notes and Queries,' vol. xvii, p. 327, we find the following notes on this subject.

"The law of whipping vagrants was enforced in other counties much in the same manner as in Buckinghamshire.

"The following curious items are from the constable's account at Great Staughton, Huntingdonshire:

"Paid in charges, taking up a distracted woman, watching her and whipping her next day 0 8 6

"Spent on nurse London, for searching the woman to see if she was with child before she was whipped, 3 of them . . 0 2 0"

It is not to be supposed, however, that any physician of the present day understands by the moral treatment which he advocates, the use of means of cure like Rosalind's or the cap-maker's baton at Cordova; or the rotatory chair once in common use, but which fell into sudden disuse on the occasion of a death having taken place during its administration; or the douche, the plunge-bath, or the prolonged shower-baths, which have been so greatly abused in this country. Doubtless what is meant to be designated by the term, is all that portion of the improved cure and treatment of the insane which is not pharmaceutical—for instance, the removal of a patient from the cares of business, or from family anxieties—surrounding him, in a cheerful country residence, with new scenes, new faces, new objects of attention and subjects for thought—affording occasion for the exercise of those organs of mind which are not diseased, and of repose for those which are—doubtless all this is considered to be moral treatment. Whether it is entirely so, an obvious analogy may help to determine. Professor Laycock maintains analogy to be the essence of medical logic. It is, at all events, an important aid in medical reasoning, and may help, in this instance, to determine the right signification of a term whose wrong use has led, and is likely to lead, to serious errors. A merchant with a hardy cerebral organisation, but with a feeble stomach, suffers great anxiety from the fluctuations and losses of commerce; he loses appetite and digestive power, becomes emaciated and generally out of health. A physician,

who recognises the form of disease as nervous dyspepsia, recommends his patient to realise and retire, or to become a sleeping partner only, in business; and to occupy his time in travelling, or yachting, or sporting, or farming. He lays down some dietetic rules, and insists upon repose of mind and muscular exercise, the pure air of the country and cheerful occupation. Under this regimen, and without the use of one dose of medicine, the patient shakes off a chronic disorder which has for years rendered life miserable, becomes robust in appearance and in fact, and able to dine like a ploughman. Is this to be called the moral treatment of dyspepsia? It is the very analogue of the treatment under which another mercantile man—who, inheriting a stronger gastric organisation, but a more feeble cerebral one, and who has become insane from the same sources of nervous excitement and exhaustion, recovers under our care, without any aid from the pharmacopœia. Is that sensible part of the hydropathic system, which consists in cheerful society and regulated habits, to be called moral treatment? If so, the whole of the treatment of the insane which is not medicinal is rightly called moral; but not otherwise. Some cases of Insanity may, undoubtedly, be treated successfully without the aid of pharmacy; but it is of the utmost importance to recognise the agencies which are employed, in their just character and by their right names; otherwise a very mistaken idea of the nature of Insanity, and of the treatment which is generally proper for it, is likely to arise—has in truth arisen, and needs to be refuted. Thus, we find in the number for July last of the 'American Journal of Insanity,' an experienced physician declaring that "he always acted upon the presumption that the patients needed no active treatment. The insane hospital is to the insane what the splint and bandage are to the fractured limb—merely to ensure quiet." But Insanity is not quite like a broken limb, and the processes by which recovery takes place are more complicated than the mere growth of new bone. Rest in one position is all that is needed to set a broken bone, because it is known that with immobility, the pathological processes are certain to be reparative; but it is not always so in brain diseases. The emotional repose and intellectual diversion, which are now sought to be obtained in well-conducted establishments for the treatment of the insane, are not, strictly speaking, moral agencies; they constitute physiological measures taken to procure functional repose for

an irritated and diseased organ. In some proportion of cases where the malady is not profound, they may result in recovery. Pinel himself says that, before resolving upon any principle of treatment, he was in the habit of first limiting himself to the most simple means, and, in many cases, of allowing the malady to run what appeared to be its natural course, in order that he might thus be able to make available all the curative resources which Nature can develop when she is not impeded by factitious obstacles. Such a rational method of proceeding is not moral, but physiological; it is not opposed to medicinal treatment, but perfectly consistent with it; it resembles the expectant delay which every wise physician will adopt in the treatment of diseases whose nature is not acute, and whose symptoms are not urgent, after he has surrounded his patient with favorable sanitary conditions, and before he commences active interference.

The doctrine which the author has maintained in the 'British and Foreign Review' (Nos. 24 and 25), respecting the emotional origin of Insanity, is by no means adverse to the opinion that moral agencies, properly so called, possess but a limited efficacy in its treatment. The emotional theory, which we believe to be the true explanation of the psychical nature of Insanity, goes to prove this—that emotional disturbance is the frequent source and the constant accompaniment of mental disease. It is opposed to the theory upon which the dogmas of the English Courts of Law have been founded—that Insanity is a perversion solely of the thinking faculties; but it is quite consistent with, and indeed subservient to, the opinion—that the proximate cause of all mental disease is to be referred solely to an abnormal state of the brain.

Some brief references to the principles of treatment laid down by a few authors whose authority stands highest in psychological medicine, deserve notice before we enter into detail. In more than the abolition of chains and the rescue of the asylum from the worst kind of the old prison discipline in order to establish that of a hospital for the cure of disease, Pinel was the father of the modern treatment of Insanity. The interest which attaches to authors before his day is of an antiquarian, rather than of a scientific kind, and his writings and practice very thoroughly effected that necessary part of all great reforms—the attack and loosening of the hold of abuses, which must be abolished before the work of reconstruction can commence.

Pinel's first chapter on treatment is, "On the practice

of Beating the Insane, as a means to Promote their Cure." Well may he commence with the exclamation, "One must deplore the fate of mankind, when one reflects upon the frequency and the multiplied causes of Insanity, and the numberless circumstances which may prove disastrous to those who suffer from it, even in the best organised constitutions." He refers to the dogma of Celsus, that when the madman "has done or said anything outrageous, he is to be coerced with hunger, chains, and stripes,"—to the account which Dr Gregory gives, of the Scotch farmer of Herculean stature, who was famous for the cure of Insanity, by a method of hard labour, and who reduced his patients to obedience by a shower of blows, on the least show of resistance; and he says that Dr Willis permitted his attendants to return blows for blows, in a manner "which gave to their brutality an independent and dangerous latitude." Let not these imputations on the treatment of the insane of this country surprise us, when we find the following principles of treatment laid down in Cullen's 'Practice of Physic:'

"Fear, being a passion which diminishes excitement, may therefore be opposed to an excess of it; and particularly to the angry and irascible excitement of maniacs. These being more susceptible of fear than might be expected, it appears to have been commonly useful. In most cases, it has appeared to be necessary to employ a very constant impression of fear; and therefore to inspire them with the awe and dread of some particular persons, especially of those who are to be constantly near them. This awe and dread is, therefore, by one means or other, to be acquired; in the first place by these being the authors of all the restraints that may be occasionally proper; but sometimes it may be necessary to acquire it even *by blows and stripes*. The former, although bearing the appearance of more severity, are much safer than strokes and blows about the head." This, without doubt, was moral treatment after the fashion of the day, and Pinel even does not quite shake himself clear of the idea that it was desirable to frighten a poor lunatic. He says:

"I have shown the nature and happy effects of the ways of kindness, in some cases of the *use of fear*—of a firm opposition to the dominant ideas and obstinancy of some insane persons, or a courageous and imposing determination, devoid, however, of all outrage, exempt from anger and animosity, and consistent with the sacred rights of humanity. This conduct differs widely from the coarse harshness, the blows, the wounds, yea, even the

atrocious and sometimes murderous treatment, which occur in asylums for the insane, where the keepers are not restrained by the most active and severe supervision." This bold physician, however, knew how to call brutality by its unsophisticated name. In his chapter on "Sudden Immersion in Cold Water as a Means of Cure," he describes Van Helmont's plan of keeping a patient under water until he was nearly drowned, in order that his extravagant ideas might be destroyed, even to their primitive traces—an object which according to this physician, could not be gained except by obliterating these ideas by a state bordering upon death (idcirco inveniendum erat remedium quod posset occidere, necare, tollere, aut obliterare præfatam illam amentiæ imaginem). "One must blush," says Pinel, "at this medical delirium, worse, perhaps, than that of the madman whose reason it was to restore."

Pinel was in a position to criticise such enormities with unflinching severity, since he could affirm that his own attendants never raised a hand against a patient, even in reprisal; that the strait-waistcoat and seclusion were used as little as possible; that the repression he used was devoid of rigor, and in degree not exceeding the occasion, as was often proved by the patient's yielding to it, on frank and friendly explanation; and that even the fear which he thought so useful in the moral treatment of his patients, was a sentiment to which esteem could ally itself immediately that reason resumed its sway. Fear, conjoined with love, are the elements of veneration. It is no wonder that Pinel's patients were capable of entertaining this high sentiment towards him, for it is the one which, at this distance of time, we feel that his whole character was calculated to inspire.

Pinel's chapters on treatment, however, full as they are of vigorous denunciation of the absurdities and cruelties which passed for treatment in his time, yet leave the impression that he had only been able to advance so far in the right path as to distinguish that which was decidedly wrong, without being able to found a system to replace the one which he demolished. He replaced, indeed, the brutal and cruel usages which were formerly employed in the custody of the insane, by a method which, although far from being so gentle and indulgent as that which prevails at the present day, was nevertheless animated by a true spirit of benevolence and of that sound common sense which is its best ally; he not only did this (and, in doing so, he denounced baths of surprise, douches, and other painful modes of treat-

ment), but he also ridiculed the "*polypharmacie monstreuse*" of his immediate predecessors in the treatment of Insanity. "Books of medical men, says Montesquieu, are monuments of the frailty of human nature and the power of art, which make us tremble when they treat even of the most trifling maladies, so much do they hold death up to us; but when they speak of the virtue of remedies, they place us in entire security, as if we were immortal!—This subtle criticism, so applicable to the mass of medical writings which adorn or burden our libraries, cannot but recall itself to one's memory when one constantly meets, in works upon Mania, with such empty terms as intemperature of the brain, the preparations of the humours before their evacuation, the seat of the peccant matter, and its so-called evulsion, or repulsion, &c. Are these very philosophic reflections not justified by a long catalogue of powders, of extracts, of juleps, of electuaries, of draughts, of cataplasms, &c., destined to triumph over mental disease? And what ought one to think of the laws so religiously kept, even down to our day, of bleedings without distinction either of the exciting causes, or of differences of sex, or of individual constitution, or of the diverse kinds of Insanity, or of the stages of the disease?" Pinel proposed to himself the task of assigning the proper limits to medicinal treatment, "since frequently our expectant method, seconded by a moral and physical regimen suffices to cure, and in other cases the evil is beyond all resource." Doubtless, the discontinuance of glaring abuses, and the substitution of a rational expectancy for a "*polypharmacie monstreuse*," "for the errors of a doctrinism full of prejudice and hypothesis, for the reign of pedantism and ignorance," was a change entirely beneficial; but it indicates a task half completed. Rarely do the fates permit that the same hands shall destroy and reconstruct; and Pinel was compelled to leave it to his successors to bring the treatment of Insanity within the domain of scientific medicine. The man upon whom this robe especially fell, was his eminent pupil Esquirol. To him we owe a considerable advancement towards a good analysis of mental diseases. An accurate observer and an elegant writer, he recorded the symptomatology of these affections, in a manner which has never been surpassed. Faithful to the humane traditions of his great master, he adhered to his general method of care, while upon that of his treatment he made important advances. Esquirol had the advantage not only of the clear field for the exertion of the medical art which

had been provided by Pinel's reforms, but he also had that of being aided in his labours by the observation and experience of other devoted workers. Thus, Bayle and Calmeil made him acquainted with General Paralysis, and gave him a power of prognosis, of the utmost importance in treatment, which his predecessor did not possess. A systematic exposure of the ignorance of others is not an amiable mode of making known our knowledge; but the nature of the errors combated by an author is sometimes the best criterion which his works afford of the existing state of general opinion on the subject of which he treats. Thus, we do not find Esquirol debating the propriety of treating Insanity with the violent means recommended by Celsus and Cullen. Far in advance of this, he combats the ignorant notion which views Insanity as one disease:—"In order to establish the basis of sound therapeutics in the treatment of mental alienation, it will be necessary to recognise all the general and individual causes of the malady; to distinguish by certain indications the source from whence the disorder has its rise; to determine whether the physical reacts upon the moral nature; to decide what varieties undergo spontaneous cure, those which demand moral remedies, those which require medicinal ones, and those which only yield to a mixed treatment."

"What misfortunes and obstacles must those practitioners have encountered who have been only able to see one individual disease in all the insanities which they have had to treat! They were not ignorant that, delirium being symptomatic of almost all diseases when approaching a fatal termination, Insanity might be also entirely symptomatic; they were not ignorant that there are instances of Insanity evidently sympathetic; they knew that a thousand exciting and predisposing causes give rise to Insanity; but paying no attention, except to the most obvious symptoms, they have permitted themselves to be imposed upon by the impetuosity, the violence, the mobility of these patients; they have neglected the study of the causes of Insanity, and that of the relation of the causes to the symptoms. Under the domination of theories, some have only been able to see the existence of inflammation, have accused the blood, and abused the lancet; others, believing in irritating bile, have checked the secreting organs and injured their functions. They have been prodigal of emetics and drastics. Some, having only taken into account the nervous influence, have given anti-spasmodics in excess. All have forgotten that the practitioner ought to have present

to his mind grand general views—the systematic ideas which dominate, which constitute medical science, the art which ought especially to devote itself to a thorough knowledge of the circumstances and of the symptoms which are capable of disclosing the causes, the seat, and the nature of the malady which it has to combat." "Often one must vary, combine, modify the means of treatment, for there is no specific treatment of Insanity. As this malady is not identical in all persons, so it has in every individual its different causes and characters; so new combinations are required, and a new problem is to be solved, for each insane person under treatment."—('Maladies Mentales.')

To have been the first to lay down the above sound principles of treatment was a great merit, and one scarcely to have been expected from a physician whose belief in the pathological foundations of psychological science was at least feeble. The above broad and just views of the treatment of Insanity are as needful to be urged at the present day as at the time they were written; for although specific drugs are less in vogue, narrow and stereotyped modes of treatment are scarcely less in favor than they were, or less dangerous. And in no class of disease does the treatment need to be more infinitely varied than in Insanity. In other wide classes some broad rules may be laid down for the treatment; and although physicians may differ respecting these rules, they will be found to adhere to one or other set of opinions respecting them. Thus, one feeds in fevers, another depletes; but in Insanity, cases which present symptoms, at first sight, of close resemblance, demand most opposite modes of treatment; and cases, which at first present symptoms most unlike, sometimes require to be treated in the same manner. An educated and exact observation is required to distinguish between the acute delirium which arises from cerebral hyperæmia, and that which arises from cerebral excitement in sympathy with intense irritation of some part of the periphery of the nervous system: or from the cerebral excitement which is but an expression of the defective nutrition of the organ from poverty of blood; or cerebral excitement propagated to all parts of the organ from some focus of irritation, some *foyer* of disease in itself—as a small portion of inflamed substance or membrane, or the structural mischiefs surrounding an apoplectic clot. In all these instances the symptoms may bear a strong resemblance to each other; and yet how different is the mode of treatment demanded in each of them!

Prophylaxis.—The prevention of disease is daily becoming the first and most earnest intention of medical science in all its branches and departments, and the prevention of mental disease is clearly within the scope of the physician's highest aims. If, as Mr Gladstone has recently told the British Medical Association, the family medical man has taken the place which the priest formerly arrogated to himself, as the confessor, adviser, and director of our modern social life, he is well placed to dam back the sources of Insanity at the very fountain head, to oppose with all his influence the generation of hereditary lunatics, to conserve by his care the bodily and mental health of pregnant and parturient women, and thus to provide that infants may be born with brains capable of sane life—to watch during the tender years when mind is forming with marvellous speed, and to indicate the natural laws which must not be broken without peril to the mental health—and then to advise against pursuits, occupations, and professions which may seem dangerous to doubtful mental stability. All this the confidential medical adviser can do, and is from time to time called upon to do, and in this way the prophylaxis of mental disease is widely promoted by the wise men of our profession in their general practice.

It is not, however, in this broad and catholic view that we wish to consider this question, but rather from the narrower point of view, how the physician may prevent the outbreak of Insanity in a person who not being yet insane is in more or less obvious danger of becoming so. No medical forethought can prevent the occurrence of Insanity from accidental causes, from fevers, sunstroke, and other physical injuries; but a vast proportion of the insane become so in consequence of psychical conditions of life and modes of living which lead to the result as certainly and evidently as unsanitary conditions of physical life lead to typhoid fever or tuberculosis, and it is in such cases that a prophylaxis can sometimes be established. In order to do so the first step is the recognition of the Insane Diathesis.

Insane Diathesis.—This peculiarity of constitution which was first insisted upon by Morel of Rouen, and Moreau of Tours, is, there can be no doubt, an element in the production of Insanity which can be greatly controlled by prudent advice and skilful treatment. Dr Maudsley has described this mental condition, under the designation of the insane temperament or neurosis spasmodica, as being rather intelligential than emotional. His description, however, does not correspond with that which

we understand by the insane diathesis. The being he describes as odd, queer, strange, and not quite right, who does things in a different way from all the rest of the world, who thinks about things under strange and novel relations, who is impressionable to subtle and usually unrecognised influences, and "who now and then does whimsical and quite purposeless acts," this being whom we, too, have often met with in life, seems to us really of unsound mind. The crack may be narrow, and very frequently it does not widen, so that such a feckless, odd, queer, strange, and not quite right being remains in much the same condition to the end of his days. His condition is complete in its incompleteness and unchanging. But by the insane diathesis we mean the condition of a person who is of really sound mind, yet who from constitutional fault is more liable than others to mental disease. As a person with the gouty diathesis may have no symptoms of gout but only be liable to them on slight occasion, so the insane diathesis is not Insanity but is a standing and ever imminent threat of it.

It is as real a fact as diathesis of gout, or of tubercle, and as hereditary, not unfrequently indeed generated *de novo* by unsanitary conditions in the parentage or in the fœtal or infantine life, but most frequently the outcome of hereditary predisposition. One form presents itself as constitutional timidity and self-depreciation; the elastic spirits of youth are absent, and the world from the first paints itself in sombre colours. A more frequent form, at least in the male sex, is a reckless spirit of audacity and defiance of and resistance to all rule, often accompanied in children by lying and cruelty, and passing with advancing years into outrageous irregularities of life and debauchery.

Another form is that of overweening self-conceit and preposterous vanity; and yet another manifests itself in simply detestable temper, moroseness varied with outrageous passion. In all these forms the intelligence is not unfrequently precocious, and is always intact, for it is assumed, and is the fact, that these people are not actually insane but have only the tendency to become so.

In these conditions moral treatment is the true prophylaxis. If left to run their course they inevitably mature into mental disease, and if the tendency be strong, too often nothing can prevent this termination. But if the more favorable instances of these ailing minds are brought under the influence of strong

and wholesome minds, if wise culture be applied to the erring emotions, and discipline to the conduct in the early years of life, while they are yet applicable, the fearful heritage may oftentimes be avoided.

In childhood and youth moral discipline is not impossible, although in this era of wanton independence, the rights even of children to do exactly that which is sweet to their own wills are exercised to a degree which our forefathers would have thought wrong and ruinous. Still during legal infancy the parents or those who are *in loco parentum* possess a legal power, which may be exercised in cultivating the emotions which are the springs of conduct, and the sources of sane or insane life.

The choice between home treatment and school treatment, and if the latter the choice of school public or private, is often most important. Some boys with the insane diathesis will do well at a public school, others would inevitably go wrong there. Few, if any will do well at home, where it is almost impossible to be strict without being stern, or to carry out the most necessary discipline without harshly setting aside the claims and bonds of natural affection. The conduct of Howard, the philanthropist, to his son, is a notable example of the unwisdom of a father to affect the *rôle* of a pedagogue. But the right choice of a tutor or a schoolmaster may in these cases of which we are writing be the most important act towards the preservation of mental health which any one can be called upon to perform, and there are schoolmasters now who really study mental peculiarities and who devote themselves to the task of training such minds as are tending towards abnormal development. Need we indicate these qualities which such a task demands? Method, patience, persistent command of temper, self-denying industry and much knowledge of child nature. When we see what these qualities can do with the young idiot, we need not fear that they will always be powerless with the child whose mental functions are not absent but aberrant.

Mental health depends so greatly upon physical health that the physician will constantly be able to promote the prophylaxis by giving good advice as to the growth of a sound body. Air and exercise, and food and raiment have a powerful influence upon the mental growth of these frail children. Their studies also, that they should not be too severe, and that they should not be too complicated or stimulating to the imagination or the passions, that they should be wholesome in degree and kind,

this also is an element of precaution which should by no means be overlooked.

When the child has become a man or at least when he has become his own master is the time of greatest trial. The physical and moral storm of puberty has had to be encountered, and greater temptations have to be met with less guidance. At college, youths who have even passed through public schools without disaster often break down into all the exaggerations and aberrations of emotion we have mentioned, and, much more, do boys who have been brought up in the relaxing indulgence of private homes.

When mental instability is manifested at this age, the question may be put to the physician whether the youth shall go on with his studies or be idle, or in what manner shall he hit the safe medium of wholesome work, or shall he travel or remain at home, or what calling shall be chosen; questions which can scarcely be answered aright without much knowledge of his art and of the world. In adult life the prophylaxis will include the consideration of an infinite variety of circumstances. Should the threatened man give up his work or his business if he can do so? In many cases, undoubtedly yes; in many others, certainly not. We have known instances in which the anxieties and chagrins attending such a step, taken with precautionary intention, have resulted in the outbreak of lunacy which it was meant to avert. Yet if the calling is attended with anxieties which weigh upon the ailing mind, it should be given up for a time or its burthen should be lightened.

Should the threatened man travel? We think not often. Change of scene may do much good, but not constant change of scene with its labours, irritations and trials, especially if undertaken in foreign countries. This constant change of scene which we call travel easily suggests itself to friends and physicians. It is so obvious a method of getting a man away from places and people and circumstances which are irritating and obnoxious, and of removing him out of sight for a while, that it is an expedient adopted with far more frequency than wisdom. We have ourselves known most disastrous results from it. Men threatened with lunacy who have been sent on their travels we have known to commit suicide in foreign hotels and in mountain solitudes, to have outbursts of raving Mania in railway stations, and in city streets, and to get into the hands of the police for outrageous conduct. The friends of such a

man who send him on his travels without efficient watch and ward, commit a flagrant breach of private responsibility and of public decorum. As far as cure is concerned they might as well throw their friend from the top of a house because a lunatic is said to have been so cured by pitching accidently on the right cranial spot. What they do, and know that they do, is to hide their friend for a while from the eyes of their own immediate public and to postpone the responsibility of taking proper steps for his care and treatment.

A threatened lunatic, or one whom we may call a developing lunatic, ought not to be sent to travel in foreign parts without guarantees that proper care and efficient watch and ward should be provided for him. If he be attended by a medical man instructed in his case, by a trustworthy body-servant and a good courier, and has "put money in his purse," there is no reason why the efficacy of foreign travel should not be tried under proper advice; but to allow sensitive relatives to seclude from the public eye a man on or over the threshold of Insanity, by sending him on the grand tour, without these safeguards, is to invalidate the whole spirit of the lunacy laws which are framed to protect Englishmen who on account of mental infirmity cannot take care of themselves.

Travel within the four seas is quite a different measure, and with due provision for care and protection, for the right admixture of rest and fatigue, of change and repose, is a very fair and proper thing to try, not only in threatened yet undeveloped Insanity but also in many chronic conditions of mental disease, and especially also in the state of convalescence.

Of Marriage it may be said that the celibacy of the insane is the prophylaxis of Insanity in the race, and although a well-chosen mate and a happy marriage may sometimes postpone or even prevent the development of Insanity in the individual, still no medical man having regard to the health of the community or even to that of the family can possibly feel himself justified in recommending the marriage of any person of either sex in whom the insane diathesis is well marked. The lottery of marriage is so great and the chances of happiness in it so uncertain, that for any one so threatened with Insanity to embark in it must ever be a most perilous enterprise, even for the individual, but to the children and grandchildren and the race the results are not uncertain. They are sure to be calamitous. It is thus that the seeds of mental disease and of moral

evil are sown broadcast through the land; and other nerve defects and diseases are multiplied and varied with imbecilities and idiocies and suicidal and other propensities and dispositions leading to all manner of vice and crime. The marriage of hereditary lunatics is a veritable Pandora's box of physical and moral evil.

Treatment at the outbreak.—In our former editions we have written of treatment perhaps too exclusively from the stand-point which we occupied as the physician of a public asylum. We wish now to fill up our sketch of treatment as it is applicable to patients of the upper classes who are usually treated in private homes, or in private asylums. In the labourer and artificer class the lunatic is so far fortunate that, living from hand to mouth under the sweat of his brow, the outbreak of Insanity generally pauperises him at once and throws the responsibility of his care and treatment upon the public authorities. The law of the land is admirably designed for his protection and welfare, and, if it be really carried out, the care and proper treatment of the pauper lunatic will be all that humanity and science can desire. He will be placed forthwith in one of the county asylums, a class of institutions of which our own profession and the community at large have every reason to be abundantly proud, and he will there receive care and treatment which his superiors in rank and wealth may well regard with jealous envy. His only danger will be in the chance of being shunted into the dismal and dreary neglect of the union house, where the guardians of the poor rates will regard him with an eye of calculating parsimony. If he be somewhat violent and dangerous, then so much the better for him; if he be tranquil and melancholic so much the worse, for he will be the further removed from the chances of curative treatment. Even his cure might not be regarded as an unmitigated advantage if it should cost too much. Not long ago we were examining a union house, no worse than others, in company with the Guardians, and observing a recent and as we thought curable lunatic in detention there, we expostulated and advised that he should be sent forthwith to the asylum for treatment, but the Deputy Chairman of the Guardians remarked to us that the man was old and infirm and that even if he were cured he would have to be maintained out of the rates. Being a used-up labourer he was not worth the expense of being cured. As a rule, pauper lunatics are sent to the asylum through the instru-

mentality of the relieving officer, who interposes any amount of delay which he may think fit; the statute indeed fixes a penalty for his delay beyond a certain limit, but we never yet heard of an instance in which it was inflicted. It would be well if some speedy and practical appeal could be made to an independent authority.

However, once in a county asylum, the treatment of the lunatic is, as a rule, admirable. Asylums do indeed differ greatly from each other in the energy and liberality of their management, and more especially in the circumstance whether or not their wards are overcrowded with inmates. But as a great and general rule, the labourer or artisan whose means of support are suddenly interrupted by the intervention of Insanity, and who cannot be detained, much less treated in his own narrow domicile, is provided in the county asylum with a liberal, skilful, and disinterested treatment which gives him the very best chance of recovery, and which, if that event does not happen, provides him with a mode of living as free from the miseries of his condition as his circumstances will permit. On this latter point, however, we shall have something further to add in our observations on cottage treatment.

But how, on the outbreak of Insanity, should a patient be treated who is not a pauper either actually or constructively? This also will depend very much not only upon the condition but upon the means of the lunatic. Really efficient and satisfactory treatment in a private house is costly. Removal from the patient's own home is in most cases not only advisable but imperative in acute outbreaks; and with persons of small or moderate means, removal either to a private asylum or to one of those excellent institutions, the Hospitals for the Insane of the middle classes, is undoubtedly the wisest and most prudent step to be taken at once. All the means and appliances of skilful care and treatment may certainly be procured in the latter at a reasonable cost.

To provide a separate private residence with an establishment of servants, a skilled attendant and proper medical care, will often cost six or seven hundred pounds a year, while the most efficient care and treatment in a Hospital for the Insane can be procured for one tenth part of that sum. The question of expense therefore limits efficient treatment of the majority of recent cases to institutions. If the patient is possessed of good means, there is no sufficient reason why the trial of

private treatment should not be made. A retired and suitable residence may be procured, a suite of rooms made safe, one or more skilled attendants engaged, even a resident medical man be provided and any required amount of consulting professional attention. In acute cases of Mania and Melancholia, in which the patient is so much occupied by delusions and insane emotions, that he does not know whether he is at home or elsewhere, such a method of treatment is frequently adopted with successful results, and the social advantage of not having been treated in an asylum, frequently imaginary, but sometimes very real, is attained.

With the exception of an acute outbreak of Mania or Melancholia in a person with some pecuniary resources, a recent and hopeful case of Insanity should be placed for curative treatment in an asylum, especially if there be reason to suppose that the patient is dangerous to himself or others; and then comes to the medical adviser and to the friends the portentous question of what asylum, for these institutions differ from each other more than we shall venture to describe or depict. We shall, however, lay down a few general rules which may guide in the choice of an asylum, and at the same time indicate some of the means and methods by which, as we think, curative treatment ought to be pursued in an asylum.

Choice of Asylum.—The asylum* should contain a considerable number of inmates. Some small private asylums with few inmates are well adapted for the continued residence of chronic lunatics needing more care at less cost than can be provided in private dwellings. Such asylums are excellent for the care and detention of chronic lunatics who are not fit for the enjoyment of domestic life, but they do not and cannot offer the means and appliances for the curative treatment of recent cases. For these an asylum containing at least thirty or forty patients should be chosen, and one containing four or five times that number should be preferred. A certain minimum number of fellow-patients is needful to establish that system of method and discipline which forms a great part of the curative influence of asylum treatment.

The great importance of this influence upon the insane mind we have always insisted upon. Orderly conduct and obedience

* We use the word asylum in these pages in its ordinary colloquial sense, intending it to include asylums for the middle classes or hospitals for the insane, and private asylums or licensed houses.

to conventional rule, though it be but that of an asylum, is the first step towards reasonable processes of thought and healthy states of emotion, and the lunatic placed in an asylum very constantly falls into the order and rule of the house as a boy, rude and unmanageable at home, falls into the order and rule of a great school.

An additional and most important advantage obtained in an asylum of some magnitude is that it renders classification possible. The only classification, however, which is carried out in many private asylums is that of wealth.

The patients who pay the most money get the best rooms, and those of small means get the worst. The tranquil, the timid, and the depressed are too often associated in the same small sitting rooms with the talkative, the noisy, the excited and the restless, if their payments are insufficient to purchase more ample accommodation; and yet it is known that a careful classification of the patients is one of the fundamental elements of successful asylum treatment.

Another most important point in the selection of an asylum is that the person who rules the house should be resident in it. We do not say the proprietor, for in licensed houses this person frequently is not the ruler of the house, neither ought he to be if he is not a medical man. In all asylums fit for treatment, the ruler of the house must be a medical man, and, undoubtedly, he ought to be resident. The moral treatment of the insane so immediately depends upon personal authority, that it is absurd to suppose it can be adequately carried out under the faint reflection of power which an absent physician thinks fit to cast upon some unimportant deputy, whose subordinate position is always thoroughly well known both to patients and attendants, a knowledge which acts perniciously in various directions upon the success of treatment.

In all public asylums and hospitals for the insane, the ruler of the house is always at the present day a resident medical man, and in all private asylums the same arrangement ought to be insisted upon. The power of holding in confinement in his house a number of insane persons surely ought only to be entrusted to a medical man who will reside in that house, or to some person, be he in the medical profession or not, who will confide the whole power of ruling that house to a competent medical resident.

Another essential point in the choice of an asylum is that the

attendants should not only be skilful and trustworthy and under the constant direction and control of the physician, but that they should be in continuous charge of the insane inmates. We cannot imagine a system more immediately tending to the disadvantage of patients under treatment for mental disease, than that which prevails in some private asylums of maintaining a public traffic in attendants. Under this system a patient has no sooner become accustomed to an attendant and has learned somewhat to trust in him, and an attendant has no sooner learnt somewhat of his patient and has acquired a salutary influence over him, than the bond between them is likely to be broken by the attendant being "sent out on call" to some distant private patient under the treatment of some other medical man, the proprietor of the asylum sharing the attendant's wages. We have known a private asylum of good repute in which this traffic in attendants was so great, that at times there would be nearly as many attendants in the institution as there were patients, and at other times when *calls* had been numerous, the attendants would be so few as to be quite inadequate to the proper care and control of the patients. The care and treatment of the patients cannot be equable and satisfactory when this trade in attendants is carried on by the proprietor, by which his agents and instruments of care and control are liable to constant change, being sent away on a roster of *call* like postboys from the stable-yard of an hotel. We object to the system in this place, because we believe it to be pernicious to treatment, without referring to the question as to whether it is honorable for the proprietors of asylums to derive a profit by taking from servants who are no longer under their supervision a large proportion, amounting to from 30 to 40 per cent., of their wages. We know attendants upon lunatics living in domestic privacy who have thus paid hundreds of pounds out of their wages to asylum proprietors who have never seen the patients at all, and have not seen the attendants for years, nor heard from them except to receive the annual tribute.

It should not be lost sight of that an asylum is and must be to a great extent a prison, and that if its inmates are not susceptible of cure, they ought to be provided with the means of living in it as happily as possible in confinement; and therefore it should be wholesome, spacious, and cheerful. The locality should be good, the house well adapted in its arrangements to its special purpose, and the surrounding grounds ample and

attractive. The locality should not be within the crowded and dingy suburbs of a large town, whose depressing influences of outlook, atmosphere, and associations cannot fail to have a bad effect on the feeble health and susceptible nerves of many insane persons, neither should it be in so remote a part of the country as to be inconveniently distant from the amusements, interests, and conveniences of towns, or so ill-placed that friends cannot obtain ready access, or that convalescing or intermitting cases should feel residence in it needlessly dreary and monotonous. It should be on a porous and well-drained soil and be well supplied with good water. The situation, in other words, should be cheerful, healthy, and convenient.

Without entering upon details or descriptions as to architectural form and arrangements, the house itself should be spacious, airy, well lighted, well furnished, not over-crowded, and well provided with baths, lavatories and water-closets, and with various means of recreation. We have too often seen the inmates of private asylums for the wealthy classes so crowded together in sitting rooms that there was not a chair or a seat on a sofa available for any new comer. How can curative treatment be expected, or the comfort and welfare of the incurable be provided for, under such conditions? The limit of capacity in pauper asylums may fairly be estimated by the minimum of superficial and cubical space which is thoroughly consistent with health, but the asylum arrangements for the wealthy ought to be conducted on different principles, and a gentleman or lady ought to have some approximation to the house space in which he or she has been accustomed to move; he ought not to be liable to have the possession of a chair constantly disputed, or to be unable to move about his sitting-room without jostling his fellow-patients. Many of the private asylums, and especially the metropolitan ones, appear to us to be licensed for the reception of a far greater number of inmates than they are capable of containing under conditions of comfort and wellbeing, the defect being most apparent in the sitting-rooms, which are often quite inadequate to the bedroom accommodation, which is generally taken as the standard of the house capacity. And this defect is thus rendered more grave by the absence of the wide corridors in private asylums which afford so much foot space in almost all public institutions, and which admit the possibility of walking about with some freedom within doors. It is a defect which might be remedied to some extent by the

provision of spacious recreation rooms, or even of covered spaces in which patients might freely walk about during inclement weather. As a rule not half enough is done in our private asylums to provide the mere bodily exercise for their inmates which is needful for their health and comfort.

But supposing the asylum, with its means and appliances, to be considered satisfactory, the most important question remains of how it is worked. An asylum has justly been described as an instrument in the hands of the psychological physician. The tool may be and often is very imperfect, but is the workman good? According to our observation and belief, the workman frequently makes up to a great extent for the inadequacy of his means. The asylum physician ought to know his business practically and scientifically; he ought to have firmness and gentleness, the hand of iron in the velvet glove; he ought to be both loved and respected, to be cheerful and friendly, and at the same time a master in his own house, and capable of maintaining the domestic law. If so, he will insist upon punctuality, order, and method; he will promote good-will and amiable relations between the inmates; he will watch for and repress petty tyranny and injustice; he will engage good attendants and servants, remunerate them fairly, treat them justly, and instruct and supervise them patiently in the discharge of their trying duties; he will ever set before his mind, and endeavour to attain to, the prime object to which he has devoted his life, namely, to effect the recovery of the insane persons committed to his care, and if that be impossible, then to effect their improvement so far as that is possible, and to provide for their comfort and their greatest attainable happiness.

It is nowhere difficult in these times to find a physician of really scientific ability who has devoted himself to the above duties and who carries them out carefully and conscientiously, and it ought not to be difficult to discriminate between such a man and one who is a shepherd whose only thought is how close he can shear, one to whom the misery of those confided to his care is very secondary to his own profit, one who regrets the recovery of the patient because his discharge is a diminution of income. Either the curative treatment or the comfortable detention of the insane would be very unsafe in the hands of such a man.

Attendants for the Insane are more than nurses of the sick. They keep watch and guard, are the instruments of order and

discipline, and to a great extent the active agents of moral treatment. To their proper selection, training, and guidance, the success of treatment, whether curative or palliative, security from harm and accident, and the general comfort and wellbeing of the lunatic, are in great measure due. The requirements we make upon their patience, endurance, temper, and health, are so great, that their services when thoroughly good are wellnigh invaluable. In public institutions, they are generally trained from an early period of adult life to their difficult duties. To begin with, they ought to possess robust health, good intelligence, courage, fair education, conscientiousness, and what we will venture to call an open temper in contradistinction to mere insipid amiability, or moroseness, or phlegmatic apathy. Get a man from the tail of the plough, or a housemaid, with these qualities, and it needs but careful training and right example to make a good attendant. As a rule men who have been educated in a different school make bad attendants. They have to unlearn so much, and so it happens that old soldiers, old policemen, butlers, game-keepers, &c., are very poor material for this work. Men of better social rank and of higher education are generally failures, from the simple reason that they have generally failed already in a line of life more consonant with the proper ambition of their station in consequence of some defect in temper or character. Persons of better social position and education than these we have here indicated are often extremely useful as companions to the insane, but they rarely make good attendants. It cannot be expected that you will often get much good out of a gentleman who will demean himself by consenting to occupy a *quasi* menial position, and to associate with other attendants taken from what are called the labouring classes. An old hunter rarely makes a good plough horse.

A system which we think might be tried with every prospect of success in large private asylums is the establishment of two classes of attendants, namely, a class of gentlemen or lady attendants and a sub-class of menial attendants. This plan if properly carried out would probably work with the same very satisfactory results as the nursing in some of our hospitals, especially in the University and King's College Hospitals, where the higher and what we may call the æsthetic duties are performed by a sisterhood of ladies, and the menial duties by ordinary nurses. The attendance in some foreign asylums by

Sisters of Charity has indeed not been what physicians to asylums would willingly see imitated in this country, but the great difficulty met with abroad would be less likely to be met with here, namely, that this most useful sisterhood has so much power that it frequently clashes with the medical authorities.

The routine duties of an attendant in an asylum need scarcely be commented upon. Industry, punctuality, sobriety, cleanliness, we must assume, are taught by the example and precept of those whom he joins as a fellow-worker. But how is the man or woman to be taught to influence the minds of patients beneficially, to control the rude, to soothe the restless, comfort the desponding, lead the perverse, and generally become in the hands of his superior a valuable instrument of moral management? That all this influence can be exerted over educated and cultivated persons by those who are comparatively uneducated is a common fact which could scarcely have been anticipated by forethought. When we have observed it, we come to reflect upon the great force of character which is often possessed by the common people and upon their extreme shrewdness in estimating the characters of others. Education may not always improve this power. The man whose thoughts are bent upon the facts of science, or the theories of politics or theology, often has little thought to spare upon the manifestations of mind in his fellow-men who surround him. The historian who can analyse the character of Alcibiades may be quite unable to form a just estimate of that of his doctor, his lawyer, or his cook; but common people who walk in constant contact and struggle with the common everyday world learn to appreciate character as a useful means of existence. The boy who learns his declensions under a domestic tutor is innocent of human nature and of life-craft compared with the city Arab, and even the young curate, full of Greek, mathematics, and theories of vice and virtue, is often practically ignorant of these matters compared with the rude louts whom he admonishes and instructs. The common people then, in this country at least, form not so bad a material as might have been expected for the human instruments which the mental physician is bound to employ in the delicate duties of gaining moral influence over the insane.

The two great mental qualities to cultivate in attendants are observation and kindness. A good attendant ought to be an observer to begin with, to have the natural power of remarking

differences between one patient and another, and in the same patient at different times; keen to notice circumstances which distress and those which soothe, words which irritate and those which tranquillise, apt to remark all signs of disturbance and danger and all means of influence. By constant practice a very high and most useful development of this essential quality is very frequently gained.

An attendant who cannot observe is about as useful in an asylum as a blind keeper would be in a game preserve. Still more important is active kindliness of disposition, productive of patience in the endurance of trouble and annoyance, and an ever-present inclination to soothe irritation and relieve distress. Mere apathetic good humour is a negative quality, if not a disadvantage, an appearance of virtue under the cloak of which active and beneficial work may be neglected. On the other hand an attendant should be taught not to be fussy towards his charge, but to gain and maintain influence by steady and continuous care and kindness. He should be cheerful without being pert, and with gentlemen patients should be respectful without being obsequious. His demeanour will necessarily vary greatly according to the social position of his charge. An old and trusted attendant in a county asylum will very properly be far more authoritative towards the pauper lunatics under his charge than could possibly be permitted to any attendant on gentlemen. Still even to gentlemen orders must be given and obeyed, though the manner of communicating them as requests, or as the directions emanating from the superior authority, will make all the difference between a right and a wrong method. The cruelties of attendants, which are sometimes discovered, are as nothing to the constant degradation which insane gentlemen feel in being directly subjected to the authority of coarse, low-born, and ill-nurtured men.

The attendant has frequently to protect one patient from another, or to guard against mischievous and dangerous conduct; and, in a variety of circumstances, he is liable to be called upon not only to insist in the most positive manner, but even to intervene, with physical force. When this latter alternative is inevitable, the golden rule of asylum management is that the attendant should never be held to be justified in engaging in a single-handed struggle with a lunatic, unless the circumstances are so sudden that assistance could not have been called. He may be suddenly attacked by a lunatic or have to defend another

patient single-handed, or suddenly to interrupt conduct dangerous to the lunatic himself; but where persuasion has been possible, force should never be employed except by two or more attendants in such a manner as to make resistance on the part of the lunatic hopelessly futile.

Attendants should be taught not to refer to delusions, and, what is more difficult, not to defer to them. The latter is not always possible, though, owing to the singular inconsistence of the insane, it is far less difficult to do so than might have been expected. The Emperor of the World will allow himself to be addressed as Mr Brown, and the Deity will attend family prayers. The art of firmly and skilfully ignoring delusions is an important part of treatment which needs to be very carefully inculcated upon attendants, since it would constantly save them much trouble to act in just the opposite manner, by which they would very frequently barter the permanent welfare and, perhaps, the recovery of the patient against transitory acquiescence and tranquillity. Not that the rule is without exceptions, but these ought to be deliberately determined by the physician who may think the present state of the patient's health too precarious to justify any resistance to a predominant delusion, or, when a delusion is hopelessly fixed and the patient obviously incurable, may think it harmless and not worth any passing discomfort, and who may, therefore, in these cases direct his attendants to gratify the indulgence of the insane idea. But, as a rule, attendants must be most carefully instructed neither to elicit the expression of delusions nor to dispute them when expressed, and also not by word or deed to acknowledge to the patients that they believe in them. One of the best tests of the value of an attendant is the tact with which he will carry out this principle of treatment.

Another most important line of an attendant's duty is that of cheering the depressed, and a heavy and depressing duty it often is, and in the discharge of it the attendant should be well furnished with natural cheerfulness of disposition. Nothing is so contagious as emotion; and the natural unforced cheerfulness of a constant companion is often the best medicine we can administer to the fearful, the depressed, and the desponding.

Cheerfulness, however, is a quality in which we cannot give attendants much instruction. We must take and use it as a natural product, and if we are wise we shall value and preserve it. What we mean by cheerfulness in an attendant is not mirth

and "laughter holding both his sides," but a bright happy temper, capable of sympathising with the unhappy, and of longing to impart and of really communicating to a greater or less extent its own frame of mind, call it sense, or thought, or emotion, for it is all three. The sun is down and the trees are black to the eyes of the melancholiac, but a ray of imparted cheerfulness will make them green again, if but for a moment. Let the impression be repeated, and the daylight colour of healthy perception will gradually return.

As a potent means of leaving delusions on one side so that they may die out, of relieving depression and of soothing irritability, attendants have in their hands, to be well or ill used, the two great resources of occupation and recreation. These may be directed by the physician, but they can only be carried out by the attendants, and the manner in which they acquit themselves in this matter is a test of their own worth, and of the curative powers of the establishment to which they belong. In old parlance a lunatic was often called a "distracted" person, drawn apart from healthy thought, and the main thing wanted in his treatment is distraction, in contrary sense, to turn him from his morbid emotions and ideas into the old mental courses, and for this purpose no other means are so powerful as mental and bodily occupation, employments or subjects of interest diverse to or aside from the courses of delusion or morbid feeling. To engage and interest the patient's attention, to induce him to work or to lead him to amuse himself, is the difficult but most important task of the attendant, requiring all his tact, and temper, and cheerfulness, and industry. And the obvious condition of an asylum, in which these duties are well discharged, is as different from the dismal atmosphere of apathy, indolence, and neglect, which pervades other institutions, that it would hardly occur even to an uninstructed observer that they were ostensibly devoted to the same purpose. Neither are they in fact, for there are asylums in which detention and profit are the main objects, and there are others in which the cure, the care, and the comfort of the inmates are persistently and conscientiously pursued.

To promote and preserve tranquillity, peace and goodwill among the patients towards each other and towards the attendants themselves is another great object which the latter have constantly to keep in view—to separate the tranquil from the boisterous, the timid from the rude and violent, to keep apart

those who have personal antipathies, to foresee and forestall the beginnings of rancour and strife, to be guardians of domestic peace and promoters of goodwill—such are not the least of the duties of these valuable assistants in the treatment of the insane. Another duty somewhat separate is that of *Sick Nursing*. The insane are liable to all ordinary kinds of accident and illnesses and to some which are more or less special to them. The management of General Paralysis during its latter stages, when the power of deglutition is almost lost, when the sphincters are relaxed and attention to natural wants abolished, when slight pressure produces bed-sores,—all this needs the most tender and careful and cleanly nursing. The mental and physical peculiarities of sick lunatics call for special endowments on the part of those who can nurse them in a satisfactory manner, and a man or woman who would make a good general attendant is not always a good attendant upon the insane in the infirmary or the sick room, where the duties are different, difficult, and peculiar. If a good nurse is a treasure to the sick who are sane, how much more so when physical disease is complicated by the restlessness and waywardness, the loss of attention to natural wants, and of the sense of propriety and of danger, which so often exist among the patients in the infirmary of an asylum.

It will be seen from the whole of the above remarks the high importance which we attach to assistance we receive from the immediate attendants upon the insane in conducting that which is called—

The Moral Treatment of the Insane.—No term has of late years been more profusely and empirically employed, and none has been less understood, than "the moral treatment of Insanity." To remove the causes of cerebral excitement is not moral treatment; and even to be kind and gentle in word and deed to the insane cannot rightly be called moral, but physiological treatment. Thus, Dr Conolly says, "We seek a mild air for the consumptive, and place the asthmatic in an air which does not irritate him, and keep a patient with heart disease on level ground; and on the same prophylactic and curative principles we must study to remove from an insane person every influence that can further excite his brain, and to surround him with such as, acting soothingly on both body and mind, may favour the brain's rest, and promote the recovery of its normal action" ('The Treatment of the Insane without

Mechanical Restraints,' p. 55). The removal, therefore, of sources of cerebral irritation and passionate excitement is not moral but physiological treatment. It may be easy to say what is not moral treatment, but it is by no means so easy for the physician of an English asylum to say in what this treatment really does consist. If he seeks for authorities in the writings of eminent Continental alienists, he finds that with them it consists in punishment. The system, described by Pinel, of the monks* who drilled the insane, as the sergeants of the great Frederick drilled the heroes who conquered Germany, is essentially the same as that of Leuret and Ideler; the continuous but more painful blow of a torrent of water being substituted for a shower of blows from the stick. If the English physician looks to the writings of his countrymen, for some description of that moral treatment with which they boast to have replaced the barbarisms of mechanical restraint, he finds little more than vague generalities. The most inflexible firmness must be combined with never-failing kindness and gentleness and sympathy; the patient is to be taught habitual self-control, by habitual indulgence; in fact, the alienist physician is to be a veritable lion, but, like the notable Bottom in that character, he is to "roar you as gentle as a sucking dove."

In Dr Conolly's history of the abolition of mechanical restraints, a paragraph occurs which indicates the importance he attaches to the influence of mind upon mind, in the treatment of the insane:

"Among the improvements yet to be made in the practical department of public asylums, arrangements for what may be called an *individualised* treatment are particularly required. None but those daily familiar with the events of asylums can duly appreciate the great effects of such treatment in special cases. After the first improvement in patients received into the best asylums, some will remain stationary for a length of time, without the special attention of an intelligent and watchful attendant, whose duties are almost exclusively confined to such cases. For want of such especial care, the signs of improvement may fade away, and the chance of recovery be lost. Patients who have remained listless and unimproving for months, and who have seemed falling into a state of apathy or imbecility, or even verging on the hopeless state of dementia—in a word, in which they received little personal notice or attention—are seen, in some encouraging instances, when happily transferred to attendants who have more disposition to attend to them, or better opportunities of so doing, or greater aptitude for the task, to awaken from their torpor, to become

* "Il le prévenoit que son obstination dans ses écarts seroit punie le lendemain de dix coups de nerf de bœuf. L'exécution de l'arrêt était toujours ponctuelle, et s'il étoit nécessaire, on la renouveloit même à plusieurs reprises."—*L'Aliénation Mentale*, p. 312.

animated, active, and even industrious. The countenance reassumes intelligent and cheerful expression; a disposition to converse returns; all the mental faculties appear gradually to reacquire capability of exercise; and in some cases, entire amendment follows."—(p. 64.)

Now, what is this *individualised* treatment but the influence of a sane mind peculiarly apt to address itself beneficially to the insane mind, that is, moral treatment, or more strictly speaking intellectual and emotional treatment? The existence, therefore, of such a thing is recognised as of infinite importance in certain stages of Insanity; and as something in addition, and supplemental to, the ordinary kindness and physiological abstraction of excitement which too frequently constitute the whole of the modern English system of treatment.

Any officer, or attendant, who is successful in the management of the insane, who daily impresses upon them the influences of his own character to their improvement, undoubtedly practises moral treatment; often, indeed, as M. Jourdan spoke prose—without knowing it, or at least without knowing the nature of the good he does, or the rationale of its action.

That a physical disease caused by an emotion is susceptible of cure by an opposing emotion is an unquestionable fact in other regions of nosology than that devoted to the neuroses. Dyspepsia caused by anxiety is cured by prosperity and content; the dysentery of armies waits upon the depression of defeat, and is cured by the breath of victory. The opposite of that which influences any part of an organ to its detriment is likely to act upon the abnormal state so produced with beneficial effect. Therefore, emotions opposed to those which cause Insanity are likely to promote its cure. The proposition may be still wider. The causation of Insanity proves the vast influence of moral agencies upon the cerebral organism. This influence, if it can be brought to bear, must possess commensurate power as a curative resource, even when the exciting causes are unknown, or known to be physical. Pinel classifies the passions, as causes of Insanity, into the spasmodic, the depressing, and the expansive or gay; but nothing is more certain than that an expansive passion may produce Melancholia; or that a spasmodic one—jealousy, for instance—may produce the merriest variety of Mania.

Melancholia from depressing moral causes often changes into gay Mania, and the reverse. It is evident, therefore, that a knowledge of the moral cause of any particular instance of

Insanity will not always afford a clue to the emotions it is desirable to act upon, with a view to treatment. The actual condition of the patient's mind must be made the object of study with this view, and not the cause of that condition, which is so important a consideration in physical treatment. To appreciate that condition is the first step to success in acting upon it; and a faculty of clear insight into character is the primary requisite of character in him who would take a useful personal share in the moral treatment of the insane. A physi cian may be very scientific, and skilful in the use of the ordinary weapons of physic,and yet be helpless as a child in the power of influencing the feelings of others in any determinate direction; as a clergyman may be a learned theologian, but powerless as a pastor; as a schoolmaster may be full of pedantic lore, and yet practically as imbecile as Dominie Sampson. A faculty of seeing that which is passing in the minds of men is the first requisite of moral power and discipline, whether in asylums, schools, parishes, or elsewhere. Add to this a firm will, the faculty of self-control, a sympathising distress at moral pain, a strong desire to remove it, and that fascinating, biologising power is elicited which enables men to domineer for good purposes over the minds of others. Without these qualities, no one can be personally successful in the moral treatment of the insane. A mere amiable and feeble, or a coarse and uncontrollable mind, alike fail in this delicate duty; and if the possessor of such a mental constitution has the wisdom to estimate this duty at its full value, he must perform it vicariously. That so much of it may be so well done vicariously by ordinary attendants is a most happy circumstance for mental sufferers, and proves that the possession, at least in a moderate degree, of the qualities indicated, are consistent with a defective education and a lowly social rank.

In the first stages of acute Insanity all attempts at moral treatment are futile. That which, at this period, is called moral, is purely physiological—namely, removal of causes of cerebral excitement, and the arrangement of circumstances so as to secure, as far as possible, a state of cerebral repose. To this must be attributed the good influence of kindness and of the expression of sympathy, which is not always unfelt, even amidst the most acute delirium; as it is certain, on the other hand, that the remembrance of harsh behaviour and needless restraint, of whatever kind, is often the cause of deep resent-

ment, and even the source of new phases of delusion, at a period when the patient appears to be wholly occupied with trains of delusive thought and perverted emotion, having no apparent reference to the persons or things which surround him. Some authors affirm that patients retain a faithful impression of all the treatment they have received during the most acute attack; others maintain the contrary. For instance:—M. Brierre de Boismont says, "Les aliénés et les délirantes sont très crèdules et les amuse comme les enfants; leur mémoire est excessivement oublieuse." In truth, both these opinions appear to be correct, in different cases. In questioning convalescents, we have found that, in many instances, the acute stages of disorder have left a perfect blank in the memory; in others, the most painful and minute recollection of the past period of suffering has been retained. When patients emerge from the first outburst of the storm of Mania into the comparatively tranquil condition, in which they can appreciate, to some degree, the nature of persons and things—or when the primary attack has been such as to permit such appreciation from the first, the influence of moral and intellectual agencies becomes felt.

The discipline of an asylum, and the moral treatment of its inmates, consist of means which, to the inexperienced observer, are likely to appear feeble and ineffectual, because the patients are, or ought to be, under constant surveillance, and wilful breaches of discipline cannot or ought not ever to be unobserved. Jeremy Bentham used to maintain, that if a thief about to pick a pocket were perfectly certain that he would be detected and compelled to restore the whole of the property stolen, with no other punishment, he would certainly not take the trouble to commit the theft. Now, although the many varieties of misconduct to which the insane are prone are not guided by the calculating selfishness of the sane thief, although to a great extent they are manifestations of perverted emotion or morbid instinct, the principle of the preventive power of watchfulness applies to them; and hence it is that, under good and careful discipline, the need of repressive measures is comparatively very slight. Watchfulness replaces severity. The old maxim *obsta principiis* prevents to a great extent those violent and dangerous outbursts of conduct which occur under negligent treatment, and which, for the protection of the sufferer and those around him, necessitate strenuous measures of repression or restraint. Hence it occurs that, under watchful and skilful

management, all that part of the wrong conduct of the insane which is under their control becomes controllable by slight means. This is especially the case in asylums of some magnitude, on account of the influence of rule and habit upon the old inmates, and that of example upon the new comers. The influence of example in enforcing obedience to the law has a wonderful potency. The lawless youth who has been the terror of his native village becomes obedient and docile when he enlists, often without suffering any punishment, and solely because he finds himself in the midst of an orderly system. The same influence tells forcibly upon the new inmate of an asylum; he may resist at first, and his mouth may be as hard as that of an unbroken colt; but after a while, and without any harshness, he will often answer to the slightest indications of the rein of discipline.

In the moral treatment of the insane it is of the utmost importance to discriminate correctly between that part of wrong conduct which patients are able and that which they are unable to control. As a rule, that which they are able to control is controllable by means very far from being severe, either in appearance or in character. On the other hand, that part of their conduct which they are unable to control, and which is neither more nor less than the expression of pathological states of the brain, includes by far the greater part of the most violent and dangerous manifestations of Insanity.

This conduct must be resisted solely by physiological and pharmaceutical means; and direct moral treatment is as much out of place in opposing it as in inflammation of the heart, or of any other viscus. Clinical experience alone gives the power of distinguishing between the controllable wrong conduct, which is amenable to moral influences, and that violence utterly beyond the command of the will, which yields only to physiological remedies. As a rule, however, the alienist physician should make it a point to regard, under the latter light, all those aberrations of conduct which occur in the first access of the disorder, and which are accompanied by any appreciable signs of physical disturbance; and if he sees fit to combine any moral influences with his physical treatment, he should take especial care that they are not of a nature to cause pain or annoyance, and so to give birth to antipathies and resentments which may stand greatly in the way of efficient moral treatment when the proper time for its use arrives.

In the chronic forms of Insanity the accompanying symptoms of physical disorder, and the obstinacy and excess of moral perturbation, will after some experience enable the physician to make the above diagnosis of the character of insane aberrations of conduct, without which the application of any measures of moral treatment is empirical and dangerous. Thus he will learn, that the violence of epileptic Mania is beyond the reach of any kind of moral control, and justifies only measures of precaution and protection; while that of Mania impressed with the hysterical type of disease, is greatly under the influence of judicious control.

To weaken the hold of perverted, and effect the establishment of healthy emotion, is an indication of moral treatment to a great extent fulfilled by the repression of wrong conduct. Action is the outward expression of feeling; and the laws of mind are such, that many feelings derive increased vigour from their outward manifestation, and suffer diminution of their force by its suppression. This, at least, is true of habitual states of emotion, although it is not correct when applied to accidental ones; a sudden grief may be deeper, that finds not vent in tears; and pent-up anger caused by an injury that cannot openly be resented, is notoriously unrelenting.

But nothing is more certain in practical ethics than that any habitual state of feeling is fostered and strengthened by permitting its free expression in outward act. The blustering bully becomes more and more passionate by every act of violence; and the sentimental woman, who indulges herself in the outpouring of small sorrows, loses all epidermis of character, and becomes one of the most wretched of sufferers. Hence the repression of the manifestation of habitual feeling succeeds in preventing the growth of such feeling and gradually weakens its force. The tendency to sudden excitement or anger, to pride, and the various forms of selfishness which constitute no inconsiderable part of the perverted emotions of the insane, is repressed by means taken to check the irregularities of conduct of which these feelings are the source. But the indication of moral treatment now under consideration is of wider import than the mere repression of wrong conduct. Many forms of perverted emotion do not lead to conduct which can be reprehended as mischievous or dangerous; thus simple Melancholia, religious depression, some varieties of deep-seated but quiet antipathy, exaggerated pride and selfishness, constitute forms

of perverted emotion which often do not express themselves in conduct adverse to the safety and welfare of the patient. In some instances of this kind, conversation and expostulation may be of use, but as a rule, any direct interference with perverted feeling not expressing itself in conduct, and therefore not to be affected by any antagonistic conduct, tends only to excite resistance, and creates mischief. The rule of moral treatment in these cases is, to remove as far as possible the cause of perverted feeling; to place the patient in a perfectly new surrounding of circumstances, and to trust, first, to the operation of time in wearing out morbid feeling, and, secondly, to the generation of feeling of an opposite and wholesome nature. Thus, nothing is more common than for an insane person to acquire antipathies to his dearest relatives and friends, accompanied or not by suspicions and delusions. So long as interviews with such relatives, or even intercourse by letter, or conversations about them with third persons, revive at intervals the full force of these feelings, no improvement takes place; but if the patient be removed from all contact with persons and things which suggest unhealthy reminiscences, if conversation respecting his morbid feelings is interdicted, and especially if all intercourse with the objects of these feelings is absolutely denied for a sufficient time, antipathy often gradually gives way to the yearnings of restored affection.

General depression, without delusion, is one of the purest forms of emotional Insanity. To resist or reprove depression is to increase it. The appropriate moral treatment is, to gain the patient's confidence, to fix his attention, and to furnish interesting and wholesome objects of thought, which will divert the mind from introspection, which will diffuse, break the train of thought, and so loosen the hold of concentrated emotion. For this purpose, useful occupation is far superior to any form of amusement. The higher the purpose, and the more appellant the nature of the occupation to the best abilities of the patient, the more likely is it to draw him from the contemplation of self-wretchedness, and effect the triumph of moral influences. We have observed some delightful cases of this kind, in which melancholiac patients undertook the charge of the sick; and in Tennyson's psychological epic, 'Maud,' he makes the restoration of his brain-sick hero take place on the soundest principles of treatment, through the intervention of patriotism and martial ardour. It is sound wisdom, in the case of depression, not to

attempt too much at a time, but to work patiently and slowly. Deep and undemonstrative feelings, although of a morbid character, cannot be forced. A varied though orderly mode of life, in which useful occupation is pleasantly chequered by amusement, an earnest and sympathising but not too interfering behaviour on the part of the physician and his assistants, the absence of the outward and personal causes of morbid feeling, and the aid of physical remedies in obviating morbid sympathies and susceptibilities, will effect a cure in most cases where there is no irremediable change in the organism, unless the morbid states of feeling have by long neglect become second nature.

Resistance to delusive opinion, and the restoration of healthy modes of thought, is an indication of moral treatment, which is partly fulfilled by the measures proper to the two indications already discussed. Opinion, feeling, and conduct are so closely correlated that, to act upon one, necessarily influences all. Still, questions of moral treatment arise, which separately relate to each. With regard to delusive opinion, the main question is, whether it should be openly resisted—and if so, in what manner? Very diverse judgments have been expressed on the point, from that of Leuret and others, who boldly attack delusions with the douche, to that of some English psychologists, who appear to think that any kind of interference with the course of nature, in this respect, is beyond the province of the philanthropic physician. We are convinced that the best rule is to give (generally without assigning reasons) a firm, steady contradiction to the truth of the patient's delusion, whenever it is obtruded upon notice; but never to elicit the expression of a delusion, except for purposes of absolute need, as for certification, &c. A morbid thought not expressed, like a feeling not expressed, often dies out by the kindly influence of time. We have often known cases of fixed delusion, apparently hopeless, wear away by imperceptible degrees under this influence. For some reason or other, perhaps from some annoyance or other, the patient ceases to express his thoughts; after a long interval, that obvious but indescribable change takes place in his appearance which indicates returning sanity; and, when put to the test, the delusion is found to have vanished. On the other hand, we have known sad havoc made among insane minds by an indiscreet and meddlesome person eliciting the expression of their various delusions. When the patient persists in expressing his delusions, the physician must use his judgment as to the

propriety of contradicting them in words, or of maintaining a dissentient silence, and remaining as neutral as possible. A knowledge of the patient's temper will be the best guide; when contradiction can be borne without causing anger, it may be ventured upon; but when this is not likely to be the case, an unassenting silence, or dissent suggested by demeanour, is the safer and better course. In the earlier stages of Insanity, when moral treatment is of little avail in comparison with physical treatment, the patient may be permitted to express his delusions without interference; but in the second period when physical agencies have done their work, when delusive opinion appears to be in some respect the result of a morbid habit of thought, resistance to expressed delusions must not be neglected by any psychologist who aims at the actual employment of moral treatment. Simple dissent, sometimes, with an added exhortation to resist the influence of absurd ideas, is the full amount of positive resistance which can usually be offered. Argument is almost always to be avoided, but the subject of the delusion may be obliquely talked at; and a little happy ridicule, in the hands of persons able to use it with skill and without offence, is not unfrequently useful. We cannot believe that any indications of concurrence in a patient's delusions can be other than mischievous in any cases presenting the possibility of a cure; in some incurable cases, however, such concurrence may be excused on the ground of the happiness it confers. Every asylum contains some unquestionably incurable patients, whose happiness is greatly promoted by an acquiescence in their delusive opinions. We have a patient who has for years taken solicitous and trustworthy care of our horses and dogs, under the belief that they are his property. Another patient takes charge of cows and pigs, although he insists upon being addressed by the title of a certain lord. He is as trustworthy as he is arrogant, and while repudiating the slightest interference on the part of attendants, does much useful work for us, because, he says, one gentleman ought to oblige another. No one with kindly sympathy towards lunatics would think of diminishing the amount of enjoyment which a hopeless lunatic can derive in this life, by opposing or contradicting harmless delusions, from which he derives, perhaps, more happiness than some sane people do from their false estimates of wealth, and rank, and fame.

The most efficient method of loosening the hold of delusive

opinion is, by stimulating the exercise of healthy thought. When Van Swieten recommended that patients should be submerged until they were nigh unto dissolution, in order that old morbid trains of ideas might be destroyed and new ones substituted, he overlooked the fact that loss of consciousness does not get rid of any previous mode of thought, either normal or abnormal. Some curious facts are on record of change in the function of memory from pressure on the brain (see Sir Astley Cooper's 'Lectures on Surgery,' and Sir B. Brodie's 'Psychological Enquiries'); but they do not extend to any change in opinion. This, whether normal or abnormal, when it has become a mental habit, requires to be changed by slow physiological process. If even the healthy mind lays aside, for a time, a certain set or train of ideas for another set or train upon a widely different subject, it is found impossible, on resuming the former set, to think on them in exactly the same light. Feelings change, and proofs alter in value; time mellows if it does not weaken memory; and if old opinions are resumed, their angles and asperities are removed. With the delusive opinions of the insane the change is far more complete. If new objects of thought are not only presented to, but impressed upon the mind, if the patient is placed in the midst of circumstances entirely new to him—he is made to experience his pleasures and pains, his sympathies and sufferings, in a phase of existence apparently distinct from that from which he has derived all the suggestions of delusive thought—if employment is made to replace inertia, cheerful society and recreation to replace moping dulness, new trains of ideas become the habit of the mind, and the subjects of delusion gradually fade in the perspective of memory; until at last it requires an effort of recollection to bring any traces of them to the surface of thought. It may be doubted whether any idea, sane or insane, which has ever strongly held possession of the mind, is so thoroughly forgotten as to leave no traces of its passage. There are few men who do not vividly remember the impressions made upon them by some striking dream. Past delusions, also, are remembered, but new trains of thought divert attention from them; and when, after a time, they are purposely summoned by recollection to the chancery of judgment, it is found that a wholesome change has deprived them of all their force, and a healthier mode of thought contemns the validity of their proofs.

Argument is notoriously useless in the treatment of insane

delusion. Never yet was a madman argued out of any absurd opinion, resulting from mental disease; and facts to the contrary are but examples of the form of Insanity changing or yielding to the influences of time or of treatment, or of the last correction of erroneous judgment being effected in a mind verging upon sanity, by the ordinary means which influence sane thought. Arago and Baron Humboldt once kindly undertook to convince a patient that perpetual motion, of which he believed himself the discoverer, was impossible. The patient, a man of science, yielded to their arguments; but, on leaving them, before he got round the corner of the street, he said, "For all they say, I must be right."

Systematic works on Insanity generally contain examples of the cure of delusion by artifice. Prichard, who has quoted several of them from Esquirol and Guislain, avows that he has had "no opportunity of making similar experiments, which, however, I shall certainly attempt whenever it may be in my power, though without sanguine hopes of success." We have less hope than Prichard, for we should not think it worth while even to try the effect of legerdemain upon mental disease. We have seen so many painful instances of objective reality failing to influence delusion in the smallest degree, that we have not the slightest faith in the effect of the trick. At best it can only influence the semi-delusive ideas of hypochondriacs, as in the instance of a man whose supposed glass legs were well belaboured with a billet of wood by his angry servant-maid. But the delusions of Melancholia or Monomania hold on to the mind with quite a different tenacity. We have sent to a distance for the children of a patient who believed they were all dead: when they came before her living and well, her alarm at their supposed apparitions aggravated her condition greatly. When was a man who believed himself ruined ever convinced to the contrary by every show and use of wealth? We are sorry to be able to yield but very imperfect belief to the recorded accounts of the cure of delusions by legerdemain. The modern examples are so uncommonly like the old ones, that it is impossible to resist the suspicion that they have been copied from them.*

* The following reference to ancient authorities on the subject is from the charming pages of old Burton. "Sometimes, again, by some fained lye, strange newes, witty device, artificial invention, it is not amiss to deceive them. As they hate those, saith Alexander, that neglect or deride, so they will give ear to such as

The occupation of the mind by educational processes of a pedagogic kind, has a high value as a means of a moral treatment in some particular instances. Leuret relates a striking instance ('Des Indications à suivre dans le Traitement Moral,' p. 61) of compelling the patient to learn daily, by rote, a certain number of verses, by which he overcame a peculiar form of insanity, manifesting itself in the constant repetition of fixed ideas, expressed in the same formulæ of words. Among educated patients, we have found literary pursuits of the utmost value as a means of moral treatment; and in asylum management we find school classes, periodical publications, and a lending library, of great importance in affording relief to the monotony of confinement, and in giving topics of conversation and thought.

With more individualised attention than is afforded in our large asylums, the moral treatment might be developed into something like the powerful means of resistance to insane preoccupation which M. Leuret has made of it. In the Devon Asylum, during eight months of the year, evening-school classes are formed under an experienced schoolmaster, on three evenings in each week. They are carried on by the attendants as class-leaders, in several wards at the same time, and consist of

will sooth them up. If they say they have swallowed froggs, or a snake, by all means grant it, and tell them you can easily cure it; 'tis an ordinary thing. Philodotus, the physician, cured a melancholy king, that thought his head was off, by putting a leaden cap thereon; the weight made him perceive it, and freed him of his fond imagination. A woman, in the said Alexander, swallowed a serpent, as she thought; he gave her a vomit, and conveyed a serpent such as she conceived into the bason; upon the sight of it she was amended. The pleasantest dotage that ever I read, saith Laurentius, was of a gentleman at Senes, in Italy, who was afraid to urinate lest all the town should be drowned; the physicians caused the bells to be rung backward, and told him the town was on fire; whereupon he made water, and was immediately cured. Another supposed his nose so big that he should dash it against the wall if he stirred; his physician took a great piece of flesh, and holding it in his hand, pinched him by the nose, making him beleeve that flesh was cut from it. Forestus had a melancholy patient, who thought he was dead: he put a fellow in a chest like a dead man, by his bed's side, and made him reare himself a little and eat: the melancholy man asked the counterfeit, whether dead men use to eat meat? he told him yea; whereupon he did eat likewise, and was cured. Lemnius hath many such instances, and Govianus Potanus, of the like."—*Anatomy of Melancholy*, vol. i, part ii, sec. ii.

In another place he says: "Hercules de Saxoniâ had such a prophet committed to his charge in Venice, that thought he was Elias, and would fast as he did; he dressed a fellow in angel's attire, that said he came from Heaven to bring him divine food, and by that means staid his fast, and administered his physicke: so by the mediation of this forged angel he was cured."—Vol. ii, part iii, sec. iv.

reading, writing, and arithmetic classes. Their influence as a source of wholesome mental occupation has been decidedly beneficial. During the summer months the evenings are spent in open air recreation.

In works which treat upon the moral treatment of insanity it has been customary to prescribe rules for the guidance of the demeanour and behaviour towards the insane. From the excess of firmness which is demanded by some, one would think it needful that an alienist physician should have "an eye like Mars, to threaten and command," as if his functions were not unlike those of the worthy Mr Van Amburgh. The universal gentleness and indulgence which others advocate would lead to an opposite extreme, scarcely less adverse to the true interests of the patients. The truth, as usual, lies between; and the physician who aims at success in the moral treatment of the insane, must be ready "to be all things to all men, if by any means he might save some." He must nevertheless have a good back-bone to his character, a strong will of his own, and with all his inflections be able to adhere, with singleness of purpose and tenacious veracity, to the opinions he has on sound and sufficient reasons formed of his patient, and the treatment needed to be pursued towards him. With self-reliance for a foundation to his character, it requires widely different manifestations, to repress excitement, to stimulate inertia, to check the vicious, to comfort the depressed, to direct the erring, to support the weak, to supplant every variety of erroneous opinion, to resist every kind of perverted feeling, and to check every form of pernicious conduct.

The physician may often, with the best success, take one part and the attendant another,—a good understanding existing between them as to the end in view. "I have often heard my master, the estimable Esquirol, affirm," says Leuret, "that an insane patient ought often to have the services of two medical men who are thoroughly agreed to act in the same direction, but by different means; the one taking the part of a consoling and officious friend, having only a restricted authority, and submitting himself, or at least appearing to submit himself, to a superior authority; the other exercising the supreme power, knowing everything, judging everything, and on occasions scolding even his colleague. I have found this officious friend in M. Marcel; and one sees with how much tact he has availed himself of the confidence of the patient. My severity rendered

the intervention of a protector needful; and this protector, in exchange for the support he gave to the patient, acquired the right to his gratitude."

The system thus practised by the senior physician and his junior is available, and often successful by the aid of attendants. The exercise of authority should be assumed by the physician himself, or by the attendant, according to the temper and position of the patient, guided also, in some degree, perhaps, by the qualifications of the physician himself, according to which he may best be able to command, or to comfort and soothe. It is essential, however, that every measure should be taken under the immediate direction of the physician, and that there should be a perfect understanding between him and his assistants. In the moral treatment of the insane a divided authority, or a diversity of intention, is fatal to all hope of success.

The subject of moral treatment is as wide as that of moral education; nay, wider; for it is education applied to a field of mental phenomena extended beyond the normal size by the breaking down of all the usual limits. Every case has its peculiarities, requiring that its moral treatment should be adapted to them. Moreover, in identical cases, if such can be supposed to exist, the same treatment will not equally succeed in the hands of different medical men. M. Leuret says ('Indications à Suivre')—"To combat the same disease two physicians take each a different part; since, finding in themselves dissimilar faculties and aptitudes, they choose the means with the use of which they are best acquainted. The moral pharmacopœia of the physician, if I may be permitted the expression, is in his head and in his heart; he has in himself that which he gives to his patient. If ingenious, he will give much; if clumsy, although learned, he will do no good. As for precepts and guides, if they exist for you, they are in you; seek them not elsewhere. The moral treatment is not a science, it is an art,—like eloquence, painting, music, poetry. However great a master of the art you may be, if you give rules, he alone will submit himself to them who is your inferior. In matters of physical science there are precise rules; in mathematical ones, there are rigorous calculations; but, in morals, there must be inspiration."

Mechanical Restraint and Seclusion.—A work on Insanity would certainly be defective if all mention of the topic which,

of late, has so much engrossed the attention of alienist physicians were omitted. But although we have taken an active part in the warm discussion on the question of the total abolition of all mechanical restraints, we do not feel called upon to revive it in these pages. We have for eighteen years conducted a large county asylum, without having had occasion to resort to the employment of mechanical restraint in the treatment of insanity. We entertain precisely the same opinions on the employment of restraint and seclusion as those which, twenty years ago, we expressed to the Commissioners in Lunacy and which, with many others, they have published in their eighth Report for the year 1854. We shall, therefore, be content to quote some passages from that Report, in which we have set forth our opinion and practice in these important questions of treatment.

"In the Devon County Asylum, restraint is never employed, except in surgical cases; in these, of course, the same principles must be adopted for the insane as are necessary for the sane, to ensure that absolute quietude of parts which is essential for the advantageous conduct of the healing process. It is not denied that cases have occasionally arisen in which it was difficult in the extreme to avoid the imposition of restraint; for instance, those of suicidal patients who have endeavoured to effect their purpose by thrusting articles of clothing and other substances down the throat, by beating the head against the wall, and other means which are scarcely capable of being obviated by any watchfulness on the part of the attendants.

"The occurrence of such cases, however unfrequent they may be, renders it impossible to deny that the imposition of mechanical restraint may, in rare instances, be rendered necessary for the safety of the patient.

"Mechanical restraint in the treatment of the insane is like the actual cautery in the treatment of wounds, a barbarous remedy, which has become obsolete from the introduction of more skilful and humane methods, but which may still be called for in exceptional and desperate cases. It may be said, that as these cases are so rare—that as large asylums are conducted, for many years, without one of them being met with—that as they do not appear, it may be considered as if they did not exist.

"The abolition of restraint was an indispensable starting-point for efficient reform, since its employment was combined with a multitude of evils which its removal rendered intolerable. Under restraint, the management of the insane could be conducted by a small number of attendants, without calling upon them to exercise either self-control, intelligence, or humanity; there was little need of medical skill, or employment, or recreation; it was found that the easiest plan of controlling the lunatic was by an appeal to his lowest motives, especially to the most debasing of all motives—to fear.

"Without restraint, these conditions were reversed; and, above all, it became necessary to influence and control the insane by higher and better motives. In my opinion, the essential point of difference between the old and the new systems consists in this, that under the old system the insane were controlled by appeals to the lowest and basest of the motives of human action, and under the new system

they are controlled by the highest motives which, in each individual case, it is possible to evoke.

"The lunatic is unable, without assistance, to control his actions, so that they may tend to his own well-being and to that of society. He is therefore placed under care and treatment, that he may be restored to the power of self-control; under care that while this power remains impaired, he may be assisted in its exercise. This assistance may come in the shape of a strait-waistcoat, or in the fear of one; or it may come in the sense of duty imposed in the operation of a gentle but effective discipline, of honest pride, desire of approbation, or personal regard, or the still nobler sentiments of religion. The first motive, that of fear, belongs to man and the animals, and its exercise is degrading and brutalising; the latter motives are human, and humanising in their influence, and their development is the true touch-stone of progress in the moral treatment of mental disease. It was the brutalising influence of fear and the degrading sense of shame which constituted the true *virus* of mechanical restraints.

"In repudiating the use of mechanical restraints in the Devon Asylum, the above principle has been kept in view with a jealous anxiety, lest the moral effects of restraint should present themselves in some other form. It would seem that it is more easy, or at least more consistent with our nature, to rule by fear than by love. And the annoyances caused by the insane, on their immediate attendants, are hard to be endured without exciting a spirit of retaliation. For this reason the plan of manutension, or holding violent patients for a long time by the hands of attendants, scarcely deserved the name of a reform; and seclusion, injudiciously and harshly employed, is liable to the same objection. If a patient is to be ignominiously thrust into a dark and comfortless cell, and detained there for an indefinite period, on the occasion of any outburst of temper or irritability, it may well be doubted whether mechanical restraint does not possess some advantages over such a system; and the French physicians may be perfectly justified in preferring the *gilet* to their own *cellules de force*. But, in my opinion, seclusion differs widely from restraint in its capacity for beneficial employment. Restraint, except in cases so rare that they may be left out of consideration, is always an unmitigated evil. Seclusion, wisely employed, is frequently an important and valuable remedy. The character of seclusion, as a remedy, has never recovered from the attacks made upon it by the advocates of mechanical restraint. They represented, truly enough, that a patient walking about pleasure-grounds, with his arms tied to his sides, was capable of more enjoyment than he would be if shut up in a dark and narrow cell, with all his limbs at liberty. In this objection, the fundamental principle of the new system was overlooked—that neither by restraint, seclusion, nor any other means, was it permissible to inflict upon the insane any unnecessary or avoidable suffering, or any indignity or degrading coercion, whether of a physical or a moral kind. But the possible abuse of a thing is no valid argument against its use; otherwise there is no important remedy, medical or moral, which might not be equally objected to.

"Seclusion should not be resorted to merely as a punishment for improper conduct, or as a means of getting rid of a troublesome patient; but the extreme irritability of some patients, the uncontrollable fearfulness of others, and the reckless violence of a few during periods of epileptic excitement are such that a removal from the society of their fellow-patients cannot be withheld from them without sacrificing their interests and safety. In the employment of seclusion, everything depends upon its method. In the Devon Asylum the padded room is rarely used, except as a sleeping room for feeble patients, who are liable to get out of bed, and

fall against the walls at night. Its principal use, therefore, is not for seclusion. The attendants should have the power to impose seclusion only under the most pressing emergencies for brief periods, and until the medical officer can arrive. Seclusion being a remedy, should be directed solely by the medical man, whose care it should be to abstract from it every punitive characteristic. The easiest mode of doing this is to invest it with a medical character; to speak of it as necessary for health, and even to add some other remedy, more purely medical. In numerous instances I have observed the most beneficial effects result to the mental condition of patients, from the confinement to bed which had become necessary from some not very serious bodily disorders,—a sore leg, for instance,—and have derived therefrom, on this subject, hints which I have found not without value.

"It is not, however, often feasible to confine a patient to bed for the sake of mental quietude. The relaxation so produced might increase the nervous irritability, which it was desirable to obviate. On this account it is found an excellent plan to seclude irritable patients in the open air; to place them alone in an airing court, where they can be kept under observation, and where, by solitary exercise, they can walk off their excitability. On this account, also, seclusion rooms should be light and cheerful sitting-rooms, furnished with means of occupation and amusement; the very reverse of *cellules de force*. Where such rooms are not attainable, a vacant corridor, gallery, or day-room, should always be preferred to the cramped space of a single sleeping-room. Seclusion, used as a remedy, should be made as agreeable as possible. It is thought of some importance that patients should, in many cases, have the power of ingress and egress to and from their rooms. At the opening of this asylum, the bed-room doors of one whole ward were supplied with ordinary door-handles on the outside, so that the patients might enter their rooms without the aid of the attendant's key. In each ward where seclusions are most prevalent, single room doors have been prepared with ordinary door-handles and latches within and without, in order that the seclusion may as frequently as possible be robbed of its coercive character: used in this manner, as a remedial agent, seclusion as little deserves the opprobrium of being coupled with restraint as the warm bath or any other means of allaying nervous irritability. When possible, the patient is persuaded to submit to separation, before excitement has developed into violence, and the employment of force has become requisite. If seclusion is always looked upon as an evil, it becomes an evil by being postponed until it is needful to enforce it by superior physical strength.

"There is, however, another aspect under which seclusion must be considered, wherein it is not remedial; wherein it is acknowledged to be an evil, by its use being justified, as the least of two evils of which the annoyance and danger of the patients in general is the greater. It cannot be denied that Insanity frequently displays itself by excitement of the malignant passions; and that some of the most depraved of mankind terminate their career in asylums. Towards these, seclusion must be occasionally employed in its harsher form, as a coercive means to prevent the welfare of the many from being sacrificed to the passions of the few. But, under a well-developed system of industrial employments, aided by medical remedies, this repressive kind of seclusion is rarely necessary, and in this asylum certainly forms by far the least frequent reason of its employment. Habits of industry, propriety, and order, are inculcated, and with strict surveillance leave to the ill-disposed but little opportunity for the indulgence of vicious propensities. By these means, habits of self-control are gradually established; and frequently, in the end, self-respect is so far awakened that it becomes both prudent and just to withdraw surveillance."

In conclusion, it may be useful if we briefly indicate some of the most common forms of violent conduct met with in the insane, and the treatment they demand.

First.—The violence of an insane patient may result from an irritated state of the nervous system, and a general sense of discomfort resulting therefrom. Such a patient should be soothed and tranquillised by the kind and sympathising behaviour of those around; the effects of his violence should be perceived and obviated, but not resented; and the diseased hyperæsthesia of nerve should be calmed by appropriate medicinal and regimenal treatment, narcotics, warm baths, &c.—local depletion for cerebral hyperæmia, or stimulants and full diet for the reverse condition of the brain.

Secondly.—It may result from increased energy, or at least from increased rapidity of exhaustion of the nervous force, wasting itself in the rude conduct of boisterous good or bad temper. The treatment is medicinal and regimenal. These are the cases in which active and prolonged muscular exercise is sometimes of use. The patient may need to be walked rapidly between two attendants; seclusion is occasionally needful. This condition rarely lasts long.

Thirdly.—Violence may arise from delusion. The patient may think that those around him have injured him, or intend to do so; he may consequently be violent from anger or fear. Or he may believe himself called upon to kill himself, or some one else, and hence become the subject of suicidal or homicidal violence. Such a patient must be soothed by gentle words and kind treatment, and medical remedies must be directed against the pathological condition of the brain upon which the delusion appears to depend.

Fourthly.—Violence and destructiveness are sometimes indulged by a patient as the mere result of habit. Under unskilful management, the manifestations of excitement continue after its pathological conditions have ceased. Habit is the fruitful source of all that is good or bad in the actions of man, and its influence upon insane conduct requires to be carefully discriminated. When the habit is of long standing it can only be eradicated by a process of re-education. Change of circumstances will do much to remove it; but a careful and patient system of mental training—the application of moral treatment in its fullest sense—is the sole remedy not only of violent, but of all other insane conduct which is the result of habit.

Fifthly.—The violent conduct of an insane patient is sometimes the expression of his normal state of mind and disposition. Violent and turbulent men supply their full share to the population of asylums. Sometimes the red hand is palsied by the touch of insanity. Sometimes the original disposition, and the power to express itself in dangerous act, remain unchanged. Violence of this kind, resulting from a fierce and wicked disposition, might, on first thoughts, appear to justify the most direct and energetic measures of repression; but when we reflect how little the malevolent disposition of a sane man has been proved, by the failure of all reformatory methods, to be modifiable by any forms of repression or punishment, when we reflect that punishment of any kind, even when most deserved, is entirely foreign to the beneficent calling of the medical man, we shall do right to conclude that it is enough to distinguish this form of violence from others which are the symptoms of disease, and to meet the dangers resulting from it by measures of precaution, while we strive to weaken the force of passionate and evil temper by that long-suffering charity which overcometh evil with good.

Treatment in Asylums.—In the county asylums for paupers and in the hospitals for the insane of this country, the routine of treatment of the insane at the present day is so generally excellent that it admits of little criticism, so well understood by those whose duty it is to practise it that its details stand in no need of elucidation in this place, and so incapable of being taught excepting by personal and practical study and work that it will be needless to dilate in these pages upon points of asylum management upon which there exists a general consensus of opinion.

With a general conformity and resemblance in all main and essential points, the management of various asylums and the treatment of their inmates do present such an amount of diversity as might be expected from the freedom of opinion and of action which is permitted to scientific men in their discharge of complicated and difficult duties, in which precise rules cannot be laid down without injurious restraint upon individual action. It is not altogether disadvantageous that even wrong methods should sometimes be tried and tested, if this be done openly, honestly, and with a right purpose; for this is one condition of advancement in practical science. We shall, however, indicate some important points of treatment in

asylums on which so much diversity of opinion appears yet to exist as to justify the expression of our own experience and opinions.

Classification in Asylums.—By this we of course do not mean that nosological classification of the insane according to various systems which has already been fully discussed, but that practical division of the inmates of an asylum into various groups which is an important means of treatment, needing all the good sense and experience which the physician can employ. Classification must to a great extent be ruled by the facilities or disabilities offered by the buildings which the physician has to use as his instrument, by the number of wards, their size and position, and by the peculiarities of the patients which he has to classify.

Is it possible, and if possible, is it right to abolish that opprobrium of asylums, the refractory ward? If this can be done without too great interference with the general comfort and tranquillity, there can be little doubt of the advantage which is gained; for to assemble together the more excitable patients in one place is clearly a direct method of increasing excitement. In the Devon Asylum we tried the experiment of distributing this class of patients throughout the wards, and of thus diluting the excitable element. Among the men it succeeded, in the women's side it failed; and this result might have been anticipated, by reflecting upon the greater amount of latent excitability in the female sex. The tranquillity of the female asylum was on the whole deteriorated, and the greatest good of the greatest number was not promoted.

Among the men the distributed excitability was not contagious, and the only reason why a special ward for the excitable and the dangerous should be maintained on this side of the house appeared to be the very unsatisfactory one that during working hours most of the tranquil wards are emptied of their inmates, who go to the field, the garden, and the workshops, leaving many of the wards practically tenantless, so that it becomes convenient to associate in one place and under one supervision those who were too excitable or too dangerous to accompany those who were capable of occupation. A large refractory ward is a great evil, and the best remedy, we think, is to have small wards for these cases and to make persistent efforts to dilute this element of disturbance and discomfort. These small wards should be abundantly provided with single rooms. The courts also should be of limited extent. For the patients

generally the grounds can scarcely be too spacious, open, and undivided, but experience has shown that fatal accidents may readily occur in a refractory airing court which is too large for the attendants to be always near at hand to their dangerous charge. Melancholy and depressed patients should certainly never be collected together, but divided and distributed as widely as possible. The timid and fearful should be separated from the talkative and the unquiet; though this does not apply to the depressed who are not timid, and to whom strong moral impressions are sometimes of much benefit.

We have occasionally seen an excellent effect produced in the female wards by the presence of infants or young children either admitted with their insane mothers or born in the asylum. Pet animals are often useful by cheering the monotony of asylum life; but what pet animal can compare in its influence upon any true woman, or man even, with the young human animal, with the gentle tyranny of its appeal to the strongest and best emotions and instincts of our nature? We have had several of these little mental physicians in our wards, and never knew the slightest harm happen to them, nor their failure to elicit the most tender interest and affection from a great number of the patients. A woman who in a state of manifest insanity had thrown herself and her two infant children into the river from which she alone was rescued, made the first step to recovery in the following manner. She had remained for many months in a state of the deepest depression, and had never spoken a word nor partaken of food except when quite alone. We caused an infant child of our own who could just walk to toddle past her. She evidently noticed it with interest, and on the next trial she could not resist the same womanly impulse, but called the little one to her, fondled it, and talked to it, with the first words she had spoken since the catastrophe. From that time she spoke to others, improved and recovered. When she was arraigned for murder, the Judge, Coleridge, directed the jury to return a verdict of "Not Guilty," and ordered her to be discharged into the custody of her friends, and she remained well. Morel, of Rouen, gives an interesting case in his 'Traité des Malades Mentales,' p. 613, in which he recounts the history of a lunatic lady who was under his care as her travelling physician, which we may thus summarise:

She suffered from deep Melancholia with delusions of persecution. She was an accomplished musician and artist, but although Morel took her through the glorious

museums and galleries and spectacles of Italy, the result was only to deteriorate her condition. She never spoke, but groaned continually, and lost all habit of the natural instincts. At Venice, Morel took her to a magnificent theatrical display, at which she groaned, forced pins into her flesh, and at length exploded with the reproach that he had brought to the theatre a woman whom he knew was then condemned to be burnt for her crimes. Morel then thought he would try the effect of exciting painful emotions on the principle of 'moral homœopathy,' that pain might possibly be cured by pain. He had failed to make her manifest any regret or longing for her absent children, but he took her to many of the orphanages which are so common in Italy. He was astonished to see his patient, who would march groaning through museums and galleries with her head down, pass through these orphanages with looks of intelligent tenderness for the poor children, and sometimes caress them when she thought herself unperceived. At length at the hospital at Venice she was thoroughly moved by the sight of a poor dying woman who held to her breast her two young infants, and she spontaneously demanded that the two orphans should be received by her at her hotel, where she lavished upon them her care and solicitude. From that moment she began to recover, and although the subsequent treatment, which consisted of a course of German baths, was prolonged to fifteen months, the ultimate cure was complete.

We have permitted ourselves to pursue this digression because it forcibly illustrates the importance in treatment of endeavouring to act upon the emotions.

Idiots if numerous should most certainly be collected and treated as a class. Their repulsive appearance and objectionable habits render them unfit to associate with other patients without causing disagreeable and even injurious depressions. Moreover, they ought to be subjected to a system of diligent training and education, which can only be adequately applied to them in a class of some size. The best arrangement, no doubt, is a separate idiot asylum attached to the general asylum, in the manner which has been carried out at the Warwickshire County Asylum.

The classification of the sick, the infirm, and the acute cases in asylums is important. Sometimes the sanitary condition of asylums of considerable size is so good that there is no sick, and therefore no need of a special place for the treatment of intercurrent body diseases; but there ought always to be the means of readily providing such a place whenever the necessity shall arise, although a small number of sick cases may very adequately be treated in single rooms, in a tranquil ward containing some of the more healthy and intelligent of the patients. This arrangement is especially good on the female side, where patients who have little the matter with them form excellent assistants to the nurses. There is often no better or more

sanatory employment for a woman whose own malady is ceasing or intermitting than to aid in the nurse-tending of her sick sisters. The best feelings of womanly nature may thus be evoked to the advantage of both agent and patient. For the treatment of contagious diseases there ought to be the means of providing an infirmary unconnected with the wards, when the need shall arise. Cases of acute delirium, and of acute Mania, complicated with bodily disease, cannot be treated in an infirmary containing the ordinary sick. Such cases ought to be treated in single rooms of good size, placed where the noise of raving delirium will not disturb and distract the other inmates.

For convalescent patients the best place for care and treatment is not in the regular wards of the asylum, but in some detached or semi-detached residence, like the cottage-wards which we first established in the Devon Asylum, or, better, in small buildings, quite apart and away from the great institution, but under the easy inspection and control of the superintendent. It was partly for this purpose that we were the first to recommend and to construct detached blocks, complete in themselves, and at some distance from the asylum—a plan which has now been imitated in many other asylums with satisfactory results. The mischief is that these detached blocks present such tempting facilities for providing increased accommodation that they are generally enlarged until they are spoiled as cottage-wards.

A still greater removal from the asylum is even desirable, and where there is a neighbouring village, or the scattered residences of asylum servants, convalescing patients may be most advantageously placed therein as a halfway house to the freedom which follows discharge. Well-to-do convalescents should be removed from a private asylum into private lodgings or into residence in a private family, and in many places there would be little difficulty in providing the poor with the undoubted advantage of this gradual liberation. When a patient has not quite recovered, but is in a convalescing state, he or she is frequently found to be in an impressionable state, which renders the surroundings met with in an asylum increasingly painful and opposed to the thorough re-establishment of mental stability, and at this time removal from the wards without discontinuance of the medical care is prudent, wise, and humane. The happiness of the patient is greatly promoted, and the test of partial freedom may often be applied at a far earlier period than the physician would think it advisable to give an unconditional

discharge. The statutory form of discharge on trial to the patient's own home is quite a different measure, very proper and useful in certain cases of doubtful recovery, but it does not provide for that gradual restoration to health which is the common course of mental as of most other forms of recovery from disease. It is like pushing a man convalescing from pneumonia directly from the warm atmosphere of the hospital into the cold air of the streets, with a promise that if he should suffer from relapse he may return with the same ticket.

Food and Work.—We conjoin these elements of treatment because they are twin influences in that supply of good blood to the brain which forms the broadest and soundest foundation of the treatment of the insane. With too much food and too little work, or with too little food and too much work, the vivifying stream from which healthy mind is generated in the convolutions of the brain, will either be impure or impoverished. Work, no doubt, has also a moral influence, and in that regard we may call it Occupation, and consider it together with Recreation; but here we wish to call attention to its physical relation with the health of the nervous centres.

Let the reader turn to Arndt's plate of the circulation in the healthy brain, and reflect upon the enormous supply of arterial blood to the convolutions wherein the mental work of the organ is elaborated, and he cannot fail to be impressed with the primary necessity of abundant good blood for the development of mind. Ferrier's experiments with Faradization of the brain have proved this necessity in a singularly clear manner.

As this able physiologist and experimenter informed the British Association at Bradford, "the results of experiments which he had himself made had shown the utmost importance of a proper arterial blood supply to the brain. He had found from experiments on numerous animals that when, owing to the operations necessary to expose the brain, the blood supply was lowered to a very great extent, the brain immediately ceased to give any action. When a brain was acting properly, with a circulation flowing through it freely, it reacted to a slight stimulus of electricity; but when the heart was very weak and the animal had lost a great deal of blood, he might apply any stimulus, however powerful, to the brain, and it would not react. Moreover, he had seen animals which had lost a large quantity of blood in that way fall asleep, and any stimulation would entirely fail to awaken them. Wherever there was a

deficient arterial blood-supply to the brain there was always a diminution of the intellectual powers, and a tendency towards the elevation of the emotional states, leading generally to what was commonly characterised as depression."

In the most acute forms of mental disease, especially in acute delirium, the life even of the patient depends upon the supply of good blood being sufficient to counterbalance the degenerative change taking place in the grey matter of the convolutions. In these cases the question of food is often that of existence, and the recumbent position must be retained to husband the muscular strength, and to enable the heart more easily to send an adequate supply of blood through the cerebral arteries.

In the more chronic forms of Insanity, moreover, and in dealing with the large numbers of insane collected in asylums, some of whom will recover, and most of whom will improve under proper treatment, the due supply of healthy blood to the brain depends on the ingestion of good and sufficient food, on its digestion and conversion into blood, on the aëration of the latter in the lungs, and its impulsion by a strong heart through the cerebral vessels; and to gain these ends good food and work in the open air are the obvious means. In our own country, at the present time, the supply of good food to the inmates of asylums, whether public or private, is rarely deficient. Its necessity may sometimes have to be explained to lay authorities who have no physiological knowledge; but it is so essential a means of curative treatment, and even of satisfactory care taking, that we can never expect that it should be neglected by any well-instructed medical men. Even in institutions filled with chronic and incurable cases, the effect of good and sufficient food in the diminution of excitement and on the mental improvement of the inmates, is one of the most remarkable phenomena of human physiology on a large scale with which we are acquainted. The general tranquillity and well being of the thousands of lunatics collected in our huge English asylums, as compared with the frightful excitement, turmoil, and uproar which were common in former times in this country, and with which, even in recent years, we have been apalled in some foreign asylums, this difference we do not hesitate to attribute in the main to an abundant supply of food. Kinder and better management may indeed have much to do with it, but the non-restraint system will never tranquillise a number of ill-fed lunatics; and we have no doubt that

the thin, poor dietaries which prevail in the asylums of many foreign countries are the principal cause of the difficulty which many foreign alienist physicians have experienced in carrying out our improved treatment of the insane.

If patients were well fed in foreign asylums, the proportion of those who would be excited and turbulent would be so much lessened that the question of mechanical restraint would be greatly diminished in its dimensions. As it is, we have seen within recent years such numbers of raving lunatics in several foreign asylums as to be out of all proportion to the population. In the asylum for the city of Florence, we counted in 1870 thirty-six women, each one of whom was tied tightly up in a strait-waistcoat, and almost all of them in addition strapped into restraint chairs, all of them in a high state of excitement, and producing an inconceivable Babel of discord; and in 1868 we saw in the public asylum at Bergen eight patients out of a total of fifty-six in strait-waistcoats, and almost all of them highly excited. If a good dietary had existed in these asylums, which we give as extreme examples of what we have observed to be the general rule, we do not believe it would have been possible to have found in them so many lunatics in such a preposterous state of excitement.

But good food cannot produce its full tranquillising and curative effect upon the brain unless it is properly digested and circulated. The stomach and the heart must perform their functions well before the cerebral cells can absorb their nutriment, and to effect this purpose bodily exercise in the open air is in a great number of cases almost essential. This helps the digestion, expands the lungs, and strengthens the heart, and thus the brain gets what it wants to provide improving capacity for mental processes during the day and mental repose during the night tending towards health and sanity. Work on the land is the best undoubtedly. Antæus-like, man recovers strength as he touches mother earth. No doubt the work of lunatics may be carried to excess, so as to weaken the heart and depress the general powers, and looking at the reports of some of our public asylums, in which labour seems to be regarded as the means to financial rather than to therapeutical success, one might well fear that it is sometimes abused. We must, however, freely confess that in a large acquaintance with public asylums and knowledge of their proceedings in this respect, we have never actually seen the lunatic inmates employed in labour be-

yond the limit which was wholesome and beneficial. A medical superintendent may indeed readily fall into error in this respect in the case of individual patients unless he exercises due prudence and caution. Recent cases may be permitted to engage in labour at too early a date or to too great an extent, and their improvement be retarded thereby; and it certainly ought to be laid down, as a rule, that no lunatic patient should be permitted to engage in work except under medical sanction. Asylum stewards and bailiffs ought to be kept under strict medical control in this matter. We never, however, have yet visited an asylum where the whole of the lunatics have appeared to us to have been required to do more work than was directly good for their health both of body and mind.

It appears to us that the women in our public asylums ought to share with the men the advantage of out-of-door work more than they do. Some of them are kept too stringently to monotonous and not very wholesome labour—that of the wash-tub, for example. Others lead to too great extent the unwholesome life of the seamstress. If it should be inexpedient to employ them in the fields, surely they might be more employed than they are in the garden, and even on the farm. The dairy, the piggery, and the poultry yard, come fairly within the conventional sphere of woman's duties, and would supply to the females in our asylums varied work and interest which could not fail to be beneficial and restorative.

In considering this question in relation to private asylums we must change the terms and write exercise or occupation instead of labour. They are not indeed the same thing, and lack half the interest, the regularity, and the benefit. Gentlemen, we are told, will not work—an excuse too readily admitted for the apathy, indolence, and wearisome monotony of life which are observable in many private asylums. That gentlemen should not be expected to dig and delve like those who are to the manner born to such pursuits might be expected. But surely there are methods of providing sufficient bodily exercise with mental occupation to a far greater extent even among the indolent classes of society than is often done in private asylums. There may be some difficulty with a few literary or professional men who have almost forgotten the use of other muscular members than the tongue and the fingers, but the English gentleman when in sound health of body and mind delights in muscular exercise. Whether in town or country, he walks,

rides, shoots, rows, plays cricket, or he has his workshop and lathe, and in a hundred ways makes his muscles the strong servants of his pleasure in a manner which astonishes the luxurious monsieur or the indolent signor of the south; and yet when his mind fails he is found in a private asylum dawdling round the ground or lounging in the billiard room, or at most he is sent a dreary walk along the country roads without purpose and without interest. Compared with the pauper lunatic he eats more and works less or not at all, and the result is that he is far more miserable, more unhealthy, and less likely to recover. In the earlier stages of his disease and of his captivity he emaciates for want of duly assimilated food; in the later stages he often become bloated and obese. There must be want of activity and enterprise, or ignorance of mental therapeutics, or apathy to the welfare of the patients, in any management which can permit such a state of things to exist; for although it may be difficult to provide strong, varied, and interesting exercise for gentlemen in asylums, it certainly is not impossible. At present we may fairly ask where is the effort diligently and persistently made? Where are the asylums for the rich whose proprietors have provided a supply of saddle-horses for their patients? Where have they a boat on the river—where even have they a well used cricket ground—where have they taken a manor for sport, keeping greyhounds and beagles and ferrets and fishing apparatus—where even do you see gentlemen in a private asylum amusing themselves with garden work, carpentry, or at the lathe? And yet all these things are not only feasible and practicable, but most of them are actually practised in public asylums. The patients in the asylum at Haslar are on the sea in their boats whenever weather permits, and those in the Yarmouth Asylum sweep the coast with their fishing nets. We ourselves kept boats on the estuary of the Exe and frequently indulged in sailing, rowing, and fishing, with none but lunatics for our crew. We have recently known a chronic and most unpromising case which is now convalescent; he was sent from a metropolitan asylum to the sea-side, where he had two months of daily boating and fishing, and to this he himself attributed, and with perfect justice, as we think, his remarkable recovery. Horse exercise is too costly for the poor insane, but we have known it used most beneficially by those who were able to afford it. We once knew a ride across country cure a man, or at least, it was the decisive

turning point of cure. He was the son of a country squire, and his father by our advice sent him his hunters. On his first ride, after ten miles along the highway, he turned to his attendant and said, "I have come along the road for your pleasure, and I shall go back across the fields for my own." So he rode straight home, taking everything in his way, and he rapidly recovered from that time. We have even had a lunatic living in an asylum who kept his pair of hunters and regularly used them in riding to hounds by the order of the Lord Chancellor. Riding across country may be thought an extreme and dangerous occupation for a rich lunatic, but ordinary horse exercise along the roads is scarcely so. Riding is to thousands of the English country gentry second nature, and yet when they become residents, perhaps for life, and may be having but little or nothing the matter with them so far as capacity to take care of their own personal safety is concerned, they never are permitted the enjoyment of this most pleasant and healthy exercise. Then again sport, which is so healthful and delightful to the English gentleman, why should it not be provided for him because he has drifted into an asylum as a more or less permanent resident? We have known single lunatics out of asylums who kept packs of beagles, with the approval of the Lord Chancellor, and who thoroughly enjoyed the healthy exercise which they afforded. In one solitary instance the safe and exciting sport of running after these merry little hounds is provided for the inmates of a private asylum. Many of the superintendents of public asylums are coursers, to the delight and benefit of their patients. Why is this sport never provided for the insane who are rich? Not even the quiet and apparently unobjectionable sport of angling is permitted to the inmates of private asylums, yet we know single patients who are constant and enthusiastic fishermen, and derive untold pleasure and benefit in the pursuit of their sport.

Yet we can scarcely wonder that occupations and amusements which are in any way capable of being thought risky, or costly, or troublesome, should be omitted in private asylums when we so seldom see even the safe occupation of gardening resorted to. Even a skittle alley or a bowling green is rarely provided, although they are universal in public asylums, skittles in the south, bowls in the northern counties. Our skittle alleys in the Devon Asylum were the most popular amusements we had, the patients needing no other inducement to frequent play beyond

the fun and enjoyment they had from it. A set of skittles did not last long, and even the *lignum vitæ* bowls were soon worn out of shape. Perhaps they are vulgar, but the Shah played at them at Trentham.

Moreover when lunatics above the social rank of the labouring classes find their way, as from various causes they sometimes do, into the wards of the county asylums, it is not observed that there is any insuperable difficulty in prevailing upon them to engage in work, occupation, and amusement. The difference of habit between the gentleman and the working man is not so great as to make a valid excuse for the frequent difference between a public and a private asylum in this respect, the one appearing even to cursory view as a hive of industry, the other as a castle of indolence.

We will not say that accidents never happen in these pursuits which we recommend, though we have never known one. A constant benefit may well be purchased cheaply by a rare accident; but, in fact, accidents to the insane do not come by the way or in the manner by which most people would expect them, and well watched liberty with enjoyment is certainly far less perilous than the weariness, though apparent safety, of restriction and monotony. A lunatic is far more liable to commit some violent act on himself or on others on account of the misery of a wearisome existence, than in breach of the confidence which is reposed in him for the purpose, well known to himself, of increasing his limited enjoyment of life.

Balls, Concerts, and Theatrical Entertainments.—Of these we entertain considerable distrust, especially if they are large, ostentatious, or in any way public. A dancing and music party not on too large a scale, so frequently repeated that the edge of novelty is blunted, and strictly confined to the inmates of the institution—this certainly promotes the cheerfulness of asylum life without much danger of causing undue excitement. Music is a great resource to ladies, but the brass bands formed of asylum servants are a questionable hobby. In some asylums no attendant is engaged who cannot play upon some musical instrument, thus limiting the choice of fit and proper applicants for infinitely more important duties. An asylum superintendent has a very good right to a hobby-horse, but it is well that he should have one with a long back upon which he may take a goodly number of his patients up behind, maybe to journey with them over the borders of madman's-land. Music and

theatrical entertainments may be a hobby of this kind, but it needs to be ridden with direct purpose to this end.

Removal from an Asylum is frequently a question scarcely secondary in importance to that of placing a patient in one. As a rule patients are only removed from pauper asylums by recovery or by death ; but a large proportion of the discharges from private asylums are of uncured patients who for good or bad reasons are taken to other asylums, or who are removed to be placed under domestic care and treatment—a change which is likely to be beneficial or the contrary according as it is or is not adopted with prudence and knowledge.

In the treatment of many cases, whether in public or private asylums, a time comes when removal to other influences is followed by marked improvement and often by rapid recovery. Unfortunately the poor man removed from a county asylum is, as a rule, immediately plunged into the hard work and trying circumstances which the struggle for existence of those who live literally by the sweat of the brow must ever entail. For him there is no intermediate halting place, and, therefore, his detention in the asylum until he can be pronounced to be throughly of sound mind is a measure of precautionary hygiene, which might most profitably be replaced by residence in an asylum sanatorium, or an agricultural colony apart from the great institution, if these could be provided. The provision made by the statute for sending such patients out upon trial with an allowance for maintenance does not fully meet the requirements of the situation, although it may assuage the struggles and moderate the steep gradient of sudden change.

With regard to the Rich there can be no doubt that asylum treatment ought in all cases, where there is a probability of cure, to be supplemented by change of place, scene, and surroundings, whenever that critical period arises in which excitement with delusion, or depression with delusion, is obviously tending towards quietude with weakness of mind. In this stage, which occurs in very many cases, there is often so much nervous and mental irritability that the associations met with in asylums are no longer curative, but painful and injurious. If patients are retained in an asylum during this period they are liable to a return of the original mental state, or still worse to decadence into one of the many forms of mental decay. Change from the asylum to the patient's own home may be at this time most unadvisable, but change to domestic treatment in the residence

of strangers who have the requisite qualities of good sense and good nature will often effect a cure rapidly, which would otherwise be lingering and long deferred or perhaps altogether lost. Change to lodgings or to a house taken for the use of the patient with attendants and servants provided by the asylum proprietor, is for obvious reasons more frequently recommended by the latter, and is certainly a valuable expedient, which indeed may often be tried where the greater change to domestic treatment is thought to be unadvisable. It may be tried when the patient is too excitable and uncertain in his conduct to be admitted into any family circle or the inner life of any private home. It does not withdraw the patient from the observation of the medical man under whom his improvement has so far progressed, and who is able to provide the favorite or the most competent attendants and all needful requisites for care and treatment.

Some of the larger private asylums have small home-like establishments of this kind beyond their bounds, but included within their licence, and it is always easy to obtain house convenience for this most useful change, under the statutory powers of the Commissioners to grant leave of absence upon trial. And we think that this trial of treatment out of asylums, but conducted by the asylum physician, ought to be made use of far more frequently than it is. The annual change to the sea side, which is now so generally given to the quieter inmates of private asylums, although excellent in itself, does not by any means meet the requirements of treatment which we are now discussing. We were ourselves the first to establish a sanatorium for lunatics at the sea side when in 1856 we placed between forty and fifty patients in a house at Exmouth. We had every reason to be satisfied with that experiment, and we are gratified in no slight degree in finding how universally and beneficially that experiment has been imitated by the medical officers of private asylums; for the exodus of lunatics from asylums to the sea side every summer or autumn seems to us one of the greatest practical improvements that has been introduced of late years into the management of private institutions. The amount of health and happiness gained by this annual break into the monotony of asylum life is not easily calculable, and we have known patients who participated in this annual excursion at a critical time in the history of their malady recover entirely from the effects of it. Still, this is not the kind of change from

asylum treatment which we here wish to discuss on its curative merits. The sea side change only takes place at one time of the year; it is generally made by a considerable number of patients for the needful purpose of avoiding expense; and these patients are often removed for a time from the constant observation and care of the asylum physician. As a result, its beneficial effects are more seen in the improved physical health and in the temporary enjoyment of chronic lunatics than in the mental improvement of those who are curable.

The curative treatment in the latter stages of insanity admits of much moral and intellectual influence, and in doubtful cases which hang on hand, needs to be tentative and varied, and always under the advice and guidance of a mental physician.

The Domestic Treatment of the Rich.—By the rich we mean those who have fifty pounds a year and upwards. This may be thought an extraordinary limit, notwithstanding that the vicar of sweet Auburn was declared to be "passing rich upon forty pounds a year." Still fifty pounds a year of income, or one thousand pounds of capital, has been fixed by act of Parliament as the limit which separates those who have a right to the protection of their property by the Lord Chancellor *in formâ pauperum* from those who cannot obtain it excepting by the costly process of an Inquisition, and as a fact we see and are in the habit of seeing numbers of lunatics who enjoy unexceptionable domestic treatment whose income very little exceeds the modest limit above mentioned. The wants of a chronic lunatic are not great; a healthy cottage, adequate food and raiment and a kind attendant comprise the most urgent of them, and these even in these times of enhanced prices can be and are procured for the small sum we have named. The really poor man in this old country is quite differently circumstanced, and his care and sustenance have to be wholly provided or in some way eked out either by charity or public obligation. But although fifty pounds a year is the legal limit in one direction, there is no limit in the other, and chronic lunatics include many who possess and have a right to enjoy, so far as they are capable of enjoyment, very large amounts of accumulated wealth. The question then fairly and practically arises, what kinds of chronic lunatics having means for their support, care, and treatment should be detained in asylums, and what kinds of them should enjoy the freedom and happiness of domestic treatment?

So long as a patient is excitable, quarrelsome, and noisy, or

dangerous to himself or others, while he is suicidal or subject to attacks of impulsive or delusional violence, while he entertains delusions which are likely to cause grave domestic trouble or breach of the public peace if he be at large, or if he be restless and impatient of all restraint, control and guidance, an asylum is still the best place for him, however chronic and hopeless of recovery his case may be. On the other hand, if he become tranquil, docile, and only weak of mind or possessed by harmless delusions, even if he be subject from time to time to slight fugitive excitement, or to simple depression without suicidal tendency, there is no valid reason why he should not be placed either in a home of his own or in the home of strangers, where he can enjoy his crippled life with as much freedom as his means and condition will admit. Dr Maudsley in his Presidential Address to the Medico-Psychological Association in 1871, argued the question as to the comparative advantages of the treatment of Insanity in asylums and in private houses, and he elicited an exceedingly interesting and full discussion on the subject. Dr Maudsley laid down the following propositions :— "First, that not many persons recover in asylums who might not recover equally well out of them; and secondly, that the removal of an insane patient from the asylum sometimes directly conduces to his recovery."

The remarks we have already made on the curative influence of asylums during certain states and stages of mental disease will show that we cannot fully admit the soundness of the first of these propositions; and we expressed this disagreement in the discussion above referred to; but to the second proposition we give our entire assent. Dr Maudsley maintained that the "discipline of an asylum, counting for a great deal in some cases, has this great disadvantage, that the patient's individuality is little considered; he becomes one of a crowd the majority of whom are not expected ever to get well, and his moral treatment is little more than the routine of the establishment and the dictatorship of an attendant." This disadvantage it is which tells so injuriously upon the irritable state of nervous weakness which so often succeeds an acute attack of Insanity, during which the moral influence of one sound wholesome mind brought into constant relation with the recovering intelligence and subsiding storm of emotion is so invaluable, and this influence can certainly be brought into play more advantageously in a private residence than in an asylum. As a rule patients are

sent to an asylum too late, and are kept there too long. Dr Blandford accurately expresses these views in his lectures.

"During the time that an asylum might effect a cure, the friends would not hear of sending him thither; but when all hope of cure is over, he is placed there because it is cheap and saves trouble."

"How are you to know if a patient is capable of living beyond the walls of an asylum? The answer is simple; give him a trial: many unpromising cases I have known to benefit so much by the change that they would scarcely have been recognised. Few chronic lunatics are dangerous to others: these are easily known, and we should be slow to place in a private family anyone who has ever committed an homicidal act, unless he is fully and perfectly recovered; suicidal patients require the protection of an asylum so long as Insanity remains, but there are scores of eccentric monomaniacs who are perfectly harmless, who only require surveillance and a limit to their supply of money, and can enjoy life thoroughly amidst the amusements of town or sports of the country, their eccentricities being greatly smoothed away by the constant society of educated ladies and gentlemen. As the last generation did away with the fetters and mechanical restraint used in asylums, so let the present release from the restraint of any asylum all those capable of enjoying a larger amount of liberty and freer atmosphere than that in which they now fret and chafe" (op. cit., pp. 361 and 372).

With these sensible and humane opinions we entirely coincide, from the knowledge gained by the observation of many hundreds of insane persons who do reside in their own homes or in the private residences of other persons, and who are placed in all the freedom and the enjoyment of life which their malady and their means will permit. But there is another side to the question. If many insane persons are kept in asylums who ought not to be there, certainly some others are kept out of asylums who ought to be placed therein; and it is often at least as difficult to persuade the friends of a perverse and intractable dangerous lunatic, to place him in an asylum, as it is to prevail upon the friends of other lunatics who are harmless and docile to give them the indulgence, freedom, and happiness of domestic life. We are inclined to think that this difficulty is one of such magnitude and importance as to demand the interference of the Legislature, for if it exists with regard to chancery lunatics, who are under the immediate protection of the state, how much greater must be the evil with regard to those lunatics whose proper care and treatment are entirely dependent upon the good intentions and right judgment of their friends. And the relatives of lunatics have, as a class, peculiarities which often render it a most difficult, and sometimes an impossible task to persuade and influence them to a right and rational discharge of their duties. A large proportion of them are more or less

eccentric in their views, and strange or irregular in their feelings, and on account of consanguineous similarity to the lunatic himself, the very worst persons to form a sound judgment of the best mode of treatment to which he can be subjected. Even if they should be as correct in sentiment and judgment as other people, the mental physician constantly meets with this great difficulty in obtaining their concurrence with his views, that in the early and curable stages of Insanity they are affrighted at the responsibility of placing their insane relatives in an asylum with a view to curative treatment, and in the chronic and incurable states, when a patient ought to be placed under domestic care, they have had time to become apathetic and too ready to leave their relatives in asylums because there they cost less, give least trouble, and are out of sight and mind.

The Cottage Treatment of the Poor.—This is a question closely allied to that of the domestic treatment of the rich, but with certain differences. It has been argued to a great extent on the eagerly disputed merits of the remarkable institution of Gheel, and on the advisability of attempting to imitate that curious old-world establishment in our own country. The literature on the Gheel question has become quite voluminous, Baron Mundy having collected 300 papers upon it. We must excuse ourselves from entering upon the discussion, with the remark that Gheel, like the British Constitution, has been the gradual growth of centuries, and that any exact imitation attempted in our age and country would be likely to be as futile as any one of the brand new constitutions planned by the Abbé Sieyes. Still it has been imitated on a considerable scale in Scotland under the wise auspices of Sir James Coxe, and the relief of our overgrown pauper asylums appears possible in this direction. At the discussion on Baron Mundy's paper, which took place at the annual meeting of the Medico-Psychological Association in 1862, we expressed our doubts as to the extensive application of the system in this country.

We had placed tranquil patients in the cottages of a village near to the Devon asylum for five or six years before that date, and were still endeavouring to extend the system. The results so far as our experience extended were most satisfactory, but we thought that the attempt to carry out the system to any large extent would be frustrated by the difficulty of finding many patients who were suitable objects for it, and by the additional difficulty of finding many people who were fitted to take care of

them. We must freely confess, however, that our doubts on this point have since been removed by the knowledge of what has been done at Kennaway, and still more by the observation of the comfort and happiness of poor chancery lunatics living in the rude homes of their friends in Welsh farmhouses and other country districts, the actual cost of whose care and maintenance is often not greater than that of the inmates of county asylums, while their clothes, cleanliness, and diet, and the general care and comfort provided for them, are certainly not superior to those which could be secured in the best cottages of the English agricultural labourer. Indeed, we have seen many chancery lunatics maintained in great comfort and happiness in English cottages, and *cæteris paribus* we believe their lot preferable to the poor insane who reside in more genteel residences where the means of support are small. Gentility costs so much, and is of so little real service, at least, to an insane person. We left our Devonshire trial of this cottage system in full progress in 1862, but, although it was not revoked so far as we had carried it, its extension was not attempted, and this must have been the origin of the report which we heard on the Continent, and which appears to have been communicated to Griesinger, that we had changed our opinion of its utility. Nothing could be further from the truth, seeing that if our opinions have undergone change it has been in the opposite direction of increasing confidence in the system and a higher appreciation of its merits; and we venture to affirm that notwithstanding the various theoretic objections which have been urged, no one who has ever tested by practical experiment the system of relieving our crowded asylums by placing carefully-chosen lunatics in cottages under the easy supervision of asylum officers, has ever had cause to regret the trouble he has taken, or to doubt the comfort and happiness of his emancipated patients.

After we left Devon in 1862 Griesinger paid a visit to the asylum, and wrote of our tentative beginnings of the cottage system in the following terms :

"Is this system of treatment practicable ? It has been long in operation in Gheel with over a thousand patients, and in Scotland with several hundreds, and in the most satisfactory manner. In the Devonshire County Asylum an experiment on a small scale, by Bucknill, has been completely successful. What has been done there can also be done elsewhere. But the treatment of the patients ? Can that be as good as in the close establishment, with its airy dormitories, its gardens, its water-works, its three meals a day, with butcher's meat cooked in the newest and

most approved style? To this there is only one reply. Ask a patient under family treatment, who has formerly been an inmate of a good close asylum whether he would like to go back to it. The well-being of the individual, his real happiness, depends only to a small extent upon such things, but greatly upon emotional impressions. He who is not suitable for a close establishment, and for whom it is not necessary, regards it as a bondage, for the flesh-pots of which he never longs; and—he is right."

"It was there [in the Devonshire County Asylum] that I first saw it. I shall rejoice all my life over that evening, when my theoretical notions, in presence of these small beginnings, first gave way to the force of facts. 'Yes, it is not only possible but actual!' I could have exclaimed. The errors of years were destroyed in a single hour. And even if the thing were again given up in that place, and renounced by those who had instituted it, it has been working, and it will work for all time." ('Journal of Mental Science,' No. 65, p. 29.)

The Medicinal Treatment must be founded, not upon the general resemblance of symptoms in different cases, but upon their points of dissemblance, and upon the discrimination of ultimate diagnosis; not upon the primary diagnosis which recognises a case of Insanity, but *upon the ultimate diagnosis which, as nearly as possible, refers the symptoms of each individual case to the exact pathological condition from which they arise.*

The medicinal treatment of Insanity may conveniently be classified into that of the acute and of the chronic forms of the disease,—into that whose aim is curative, and that in which it is only palliative; and again, in the former, into that which is directed to the urgent symptoms of the outbreak in which the disturbance of the organisation is a prominent feature, and that of the more tranquil period which often succeeds between the outbreak and the convalescence, in which, after the apparent subsidence of the physical disturbance, the various forms and derangements of the mental functions are often the only obvious symptoms of cerebral disease.

In the medicinal treatment of all cases of Insanity, the following objects have to be kept in view:

1st. To obviate any general derangement or diseased condition of the system.

2nd. To remove the pathological condition of the brain whether consequent upon, or independent of, general physical disturbance.

3rd. To treat urgent and dangerous symptoms.

Sometimes the measures adopted to fulfil the first of these intentions embrace the second also; for instance, where the measures adopted to relieve a state of general plethora or anæmia

relieve the same state in the cerebral organ. Sometimes the measures required to fulfil the first and second intentions are to some extent antagonistic; for instance, where, with general debility of the system, there is a local hyperæmia of the brain, and leeches with cold lotions to the head are found to be practically consistent with the use of nutritious food and stimulants. Sometimes there are no indications to guide the treatment towards the first intention, and the second becomes the prominent one. This is especially the case in the second period of recent Insanity, and in the chronic forms of Insanity, where, in the absence of any general disturbance of the system, the symptoms fairly point to a pathological condition of the brain.

Sometimes, in the absence of symptoms either local or general the fulfilment of the third indication is the only one which can be attempted. Doubtless in every single case of Insanity there exists some pathological condition in the organ of mind; but in the absence of symptoms pointing to the nature of this condition, the physician must avoid interference which may be mischievous, and be content to temporise; must be satisfied with removing the causes of irritation and excitement, and retaining his patient in an atmosphere of physical and moral hygiene.

Bleeding.—In passing from these general principles to particular remedies, the question meets us, whether bleeding is ever permissible in the treatment of Insanity? Not without cause it was emphatically condemned by Pinel and Esquirol, and it would be easy to cite a number of authorities who have followed in their track. Dr Pliny Earle has done good service to psychological medicine by the publication of his useful essay on this subject.

Before the time of Pinel, the insane were bled frequently and promiscuously, and it was said the most beneficial results were derived from the practice. Pinel's condemnation did not put a stop to it, and we learn from Dr Earle that his book was greatly needed in America, in order that some check might be put to the mischievous results of Dr. Rush's teaching on this subject. The French authors cited state that they have frequently observed cases which appeared to be curable, pass into incurable Dementia in consequence of venesection. It is no wonder that abuse of treatment so flagrant should result in an universal condemnation of it; and, in this country at least, the treatment of Insanity by general bleeding has passed into

universal disfavour and disuse among all who can be considered authorities on the subject. The treatment of Insanity described by medical officers of asylums, in the "Further Report of the Commissioners in Lunacy," 1847, contains no instance in which general bleeding is recommended. We have never used the lancet in the treatment of Insanity, but we must admit that cases do present themselves in which we have felt it our imperative duty to use leeches to the temples and cupping to the nape of the neck, to such an extent that the effect on the general system would not be much less than that of a moderate bleeding. One ought always to be suspicious of an universal rule, and more especially so when it has been adopted in opposition to a previous rule of the same character to the contrary. It is very easy to save ourselves the trouble of thinking, by giving in our adhesion to a dogma, and the man who, at the present time, is most ready to affirm, with inflexible pertinacity, that in no possible case of Insanity is it right to bleed, would, had he lived seventy years ago, have been the very man most likely to affirm that no case of Insanity can be rightly treated without such bleeding. This, however, is not the spirit of philosophy, or even the courage of good sense which has the will and hardihood to think for itself. Men love to run into extremes; but when most in extremes, let us remember that they are never altogether right, and never altogether wrong. If, therefore, our forefathers were undoubtedly wrong in their abuse of the lancet, it is just possible that we are not altogether right in looking upon it as *taboo*.

Acute Mania is not divided from inflammatory action of the brain and its membranes by any sharply drawn recognisable line of demarcation. On the contrary, some few cases of meningitis approach very closely in their nature and symptoms to the character of acute Mania; and some cases of acute Mania are accompanied by symptoms which indicate that cerebral Hyperæmia is so great in degree, and active in character, that a considerable abstraction of blood, by leeches or cupping-glasses, is the least that can be done with judgment to relieve it. Between the employment of local bleeding of this kind, and moderate general bleeding, no great question of principle can possibly exist.

Let it not be thought that the author recommends bleeding in the treatment of Insanity. The fact that, in the treatment of more than two thousand cases, we have never yet used the

lancet, is perhaps a proof that we have been, to some degree, under the influence of the general prejudice. The principle advocated is this, that no manageable remedy ought to be excluded from the treatment of a large and diverse class of diseases. The infinitely varied conditions of disease demand the occasional employment of every influence which can be guided in its action upon the organisation and its functions. No physician will act wisely in definitely rejecting the use of any manageable force of which he has knowledge, and therefore he will be disinclined wholly to expunge bleeding from the list of remedies which may be successfully employed in combating acute cases of Mania. General bleeding we cannot advise, but local bleeding by leeches to the temples or cupping to the nape is to be justified when, in addition to the symptoms of acute cerebral Hyperæmia which are not uncommon in acute Mania, to heat of head, suffusion of eyes and face, throbbing of carotid and temporal arteries, &c., there are superadded the symptoms of inflammatory action within the cranium, together with accompanying febrile reaction. Such symptoms are presented by irregular contraction of the pupils, by squinting, by convulsive twitching of the muscles of the face and arms; by a hard, full, and bounding pulse; with hot and dry skin, and the general characteristics of synocha. That such cases occur very rarely is the greater reason why the practitioner should be forewarned that they do occur; since their prompt, active, and judicious treatment is a matter of life and death.

Tartrate of Antimony.—There has been almost as much difference of opinion, of late, respecting the mode of using, and the benefits to be expected from, tartrate of antimony, as on the subject of bleeding. Dr MacFarland, at the last meeting of the American Association of Alienist Physicians, said, he had trusted that tartrate of antimony was "lying in the same grave where venesection had been buried long ago."

The late Dr Burrows speaks of the benefits to be derived from its use, and mentions the large dose of thirty grains to have been given without producing vomiting. In the "Further Commissioners' Report," above referred to, a large proportion of the reporters mention this drug with approbation. Many writers state, that the benefits to be derived from it are procured by keeping the patient in a state of nausea, and thus overcoming his tendency to acts of violence.

It is to be feared that this drug is not always used in asylums

for definite medical purposes, but that it is frequently employed to aid in preserving quiet, by overcoming the demonstrative vehemence of choleric and turbulent patients; that it is, in fact, used as the wretched wives of labouring men in the manufacturing districts use it on their drunken husbands, under the name of "*quietness*," to produce physical depression, and thus avert outbreaks of anger and violence. In a trial of a woman for murder who had, with this intention, given her husband an over-dose which had proved fatal, the extraordinary fact was elicited from druggists and others, that the administration of tartrate of antimony in the domestic broth or tea has become quite a habit among the artisan class in the North of England; and that many women buy their weekly quantity of "*quietness*," at the druggists' shops, as regularly as they lay in their weekly store of other every-day articles of consumption. It is to be feared that this pernicious habit prevails to a great extent in many asylums, and that "*quietness*" is given to lunatic patients when there is no real medical indication for the use of tartrate of antimony. It may not always be easy to draw a line of strict demarcation between the medical treatment of the insane, and measures adopted for their discipline and control, but it should be always attempted; and, as a rule, the physician should steadfastly refuse to prostitute the resources of his art to any meaner purpose than a struggle with the well-recognised symptoms of disease. One source of mischief which a different line of proceeding entails is, that it throws suspicion and opprobrium upon important remedies, even when they are used for purely medical purposes. In this manner, the shower-bath and tartarised antimony have suffered in character as remedial agents in the treatment of Insanity; and it requires no inspiration to be enabled to prophesy that opium which, rightly used, is the right hand of the physician in the pharmacy of Insanity, will, ere long, be in danger of falling into disrepute, with the timid, for the same reason.*

We have used tartrate of antimony, in some cases of Mania, with the happiest results. Our aim was not to produce nausea and depression; and when these results have followed its use, our experience is that little benefit is to be expected from the use of the drug. The benefit to be derived from it appears

* Since the above was written this apprehension has been fully justified by the attack upon the use of opium in the treatment of Insanity which was made in Dr Maudsley's Presidential Address of 1871.

indeed to bear a close relation to the tolerance which the patient has for it. If a maniacal patient can bear a grain dose of tartrate of antimony, three times a day, not only without suffering from nausea or purging, but with the enjoyment of a good appetite for food, the drug will, in all probability, be beneficial. The cases in which this tolerance exists, and this benefit may be expected, are not those in which there is much heat of head, accompanied by sleeplessness and a feverish condition of the system. In these, the treatment by leeches and warm bathing is far preferable to the use of antimony, which, indeed, they rarely bear well, or are improved by. The best cases for the tartrate of antimony are those in which the symptoms of acute Mania are accompanied in men of robust constitution, with little general disturbance of the physical health; patients whose head is not hot or cool, who look well in the face, have a strong, good pulse, have a good appetite, and sleep well,—the mental symptoms being those of excessive turbulence, pride, anger, &c.; patients who are always in contention, or desiring or endeavouring to perform some feat of strength; patients who appear to enjoy superabundant vital energy. This condition, which is not a common one, but which occurs sufficiently often to make its recognition of great importance, is one of recent disease, although it is open to doubt whether it ever is the primary form of Mania. Probably it is always preceded by a period, more or less brief, in which the symptoms of cerebral Hyperæmia exist. These subside, and the symptoms above described take their place. The pathological condition of the cerebral organisation in these cases can only be matter of surmise. It seems probable that it is one of molecular change of great but irregular activity; one in which the processes of cerebral exhaustion and regeneration, of decay and repair, are energetic, but in which they have escaped from the rules imposed upon them by the habits of health. That such cases recover under the administration of tartrate of antimony, which neither produces in them nausea nor depression, is a fact of which we have had the most convincing and satisfactory experience.

Mercury.—The use of calomel, in the treatment of Mania, is yet more limited than that of tartrate of antimony. As a rule, it is a medicine to be avoided, on account of the irritability of the nervous system which it tends to produce. Five grains of calomel, however, in combination with ten of compound extract

of colocynth, or fifteen of jalap, may be given as a purge when the skin and conjunctiva are dusky and bilious; and the milder preparations of mercury may be given in alterative doses, when the state of the tongue and the evacuations indicate the need of a stimulating action upon the liver. Mercury has by many physicians been freely given to produce ptyalism in Mania. In our opinion, however, this treatment only ought to be followed in the most exceptional cases; the great nervous irritability caused by mercurialization being the very opposite condition to that we should desire to induce in the treatment of mental disease. A few cases, however, do occur in extensive practice, in which the full powers of mercury may fairly be tried. When a patient has passed from a state of acute into that of chronic Mania, which, in spite of treatment, threatens to become permanent; when this state of affairs is accompanied by local heat of the head, sometimes also with a hard pulse, we have given the patient the chance which appeared to be afforded by mercurialization, and, in some very unpromising instances, with the best results. We have known such patients improve greatly under the influence of a grain of calomel, given two or three times a day, so as to produce ptyalism. In several instances the ptyalism did not come on until considerable improvement in the physical and mental symptoms had taken place. In the use of this drug it does not occur as in that of the last mentioned, that tolerance is an indication of its utility. We have known very large quantities of mercury administered without touching the gums, and without producing any improvement. In the conditions above described, the probability of success will sometimes be augmented by small losses of blood from the temples, leeching, or by a seton in the nape. In the cases, however, above referred to, the calomel was not thus assisted, and the apparent benefits which resulted from its use were the less open to question. Instead of calomel, in these cases, we have occasionally used the bichloride of mercury, but not with the same success. We have also used this preparation in the earliest stages of General Paralysis, as recommended by Dr Sutherland; but, in this form of disorder, we have never seen any obvious improvement result from it.

Opium.—The right employment of opium in the treatment of insanity is a question whose importance is inferior to none in the whole range of psychological medicine. Many of the early writers on insanity, however, condemned the use of opiates and

narcotics generally. They had observed that the mental symptoms were generally exaggerated after natural sleep,—an observation which it is easy to verify in any case of hyperæmic mania, in which short and fitful sleep takes place. They had also probably given opium in cases which were not fitted, or were not prepared for it, and they had observed that increased excitement followed such use of the drug. They had not learned to discriminate the conditions of mental disease in which opium becomes a true balm to the wounded spirit,—a sedative in mania, a restorative in melancholia, sometimes even a tonic augmenting appetite; sometimes even an aperient, regulating the sensibility, and restoring efficient peristaltic action to the intestines.

Van Swieten mentions a case in which a scruple of opium dissolved in vinegar was taken accidentally by a maniacal patient, on whom this single dose effected a cure; and he afterwards employed this drug freely, but never went beyond fifteen grains.

The use of opium in mania is said by Esquirol to have been due to an accident: A lunatic got possession of and swallowed an ointment which contained 24 grains of opium, and having been cured by the narcotic thus unadvisedly taken, the attention of medical men was particularly directed to the use of this drug in insanity. Valsalva and Morgagni prescribed it, and Péry cured maniacal patients in whom there was much insomnia with large doses; he carried his doses as high as sixty-four grains in the twenty-four hours ('Esquirol,' tom. ii, p. 214).

The use of opium in the different forms of insanity has long been known to English practitioners. Ferriar gave grain doses of the aqueous extract in Melancholy, twice a day, with success, and was thus the precursor of the morphine treatment of this form of mental disorder, which at present enjoys so much favour; he generally combined it with bark. Halloran recommended its use in the first onset of the disease, which he believed was capable of being occasionally cut short by a full dose. After insomnia for two days, he had given 240 drops of the tincture of opium, the result of which was heavy sleep, lasting for nearly twenty-four hours, and terminating in complete recovery. Willis objected to opium, because it causes constipation, and sometimes increases watchfulness. A case is mentioned in Darwin's 'Zoonomia,' in which an insane patient was cured by Dr Binns,

by two doses of opium—the first containing two scruples, and the second, administered after an interval of four hours, containing one scruple. Dr Brandreth also records a case of acute mania, cured by 400 drops of tinc. opii. Macintosh, in his 'Practice of Physic,' states that injurious effects have followed the administration of opium in Insanity, from want of discrimination in the selection of cases for its use, and from the insufficiency of the doses used. In cases where there was great irritability and insomnia, and there was no evidence of permanent organic lesion of the brain, he has seen the best effects result from 80 to 100 drops of laudanum, given every third hour.

Dr Pliny Earle, an eminent American alienist, writes:—"I employ narcotics to a considerable extent, and believe them to be the most effective, or among the most effective, agents in the treatment of insanity. Laudanum, and the sulphate of morphine in solution are more employed than any other; even in cases of acute Mania they may often be administered with utility in a much earlier stage of the disease than has been supposed. Of the first, I generally begin with twenty minims, three times a day; and carry up the dose, so rapidly as the patient will bear it, to one, two, or three drachms, three times a day, according to the necessity of the case. I rarely exceed one drachm and a half or two drachms."

Cullen gave opium in large doses. Of the Continental physicians, Guislain appears to have used opium in Mania most freely; the dose should be large, he says, although it is best to commence with two grains, which he augments to ten, fifteen, or twenty according to the symptoms induced.

Esquirol remarks, that the ancients made great use of narcotics, in the treatment of Melancholia; and he recommends these remedies, and especially opium, in that form of Melancholy which is vulgarly called nervous,—*Mélancolie sans Matière* of Lorry. He remarks that Odier used opium for this purpose, and that, in 1816, he published a case of Melancholy, which he had cured with opium, the dose being gradually carried as high as thirty grains, combined with an equal quantity of musk.

The person who appears to have most contributed to the reintroduction of opium in the treatment of Insanity was Dr Shute, of Gloucester, and we learn from Prichard's Treatise, that tincture of opium, combined with sulphuric æther, or Hoffman's anodyne, was extensively employed in the treatment of the patients in the Gloucester Asylum. Subsequently, Dr Phillips

used opium frequently and successfully, in the treatment of Melancholia, at the Bethnal Green Asylum. Dr Seymour, the eminent physician to St George's Hospital, having visited the Bethnal Green Asylum, and seen the beneficial results of the opiate treatment, used it himself in private practice, and made known the excellent results he had obtained from it in the 'Medical Gazette.' From that time the opiate treatment, both in Melancholia and Mania, has gradually undergone development, until, at the present time, the skilful and discriminating use of this drug may truly be called the sheet-anchor of the alienist physician.

The beneficial use of opium commences even before mental disease has become actually developed; and Dr George Johnson has done excellent service in pointing out the great use of this drug in the prophylaxis of Insanity, in his Lectures published in the 'Medical Times,' in the year 1853.

The chief objects of these Lectures was to give a description of those slighter derangements of the nervous system out of which, in a certain proportion of cases, the more formidable diseases of the mind are gradually developed. The field of observation was extensive hospital and dispensary practice amongst the London poor, affording abundant opportunities for observing their habits and habitations, and for obtaining a knowledge and a record of many of their family histories. The results at which the author arrives are:—

1st. That in a large proportion of cases, the more formidable derangements of the nervous system have their origin in some form of mental shock and anxiety.

2nd. When the nature and origin of these nervous disorders are detected sufficiently early, the more serious forms of disease may often be prevented, and the slighter derangements entirely recovered from.

3rd. The method of treatment best adapted for the prevention and cure of the disease in question admits of some variation in different cases, according to the nature and the cause of the symptoms; but there is one remedy, which, when given in the mode and with the precautions indicated, is more efficacious than all others combined. *That remedy is opium.* The form in which it was prescribed is:—Pil. Saponis co., gr. v, h. s., which moderate amount of the narcotic combined with exercise in the open air and tonics, appears to have been sufficient in Dr Johnson's hands to procure refreshing sleep removing the

wearing effects of months of anxiety and restlessness, and to operate as an efficient prophylactic against mental disease.

Delirium tremens, which, without being nosologically included among the *phrenesiæ*, is undoubtedly a transitory form of Insanity, is cured by opium. In those instances of the disorder which occur in habitual drunkards when their customary stimulant is withdrawn, the drug requires to be aided in its operation by alcoholic stimulants; but in those instances which follow long-continued watching, combined with mental exertion, or moral anxiety, opium alone, in such quantity as will ensure sleep, is the sole and almost infallible remedy. The transition is easy from delirium tremens to an important class of *maniacal* cases—Mania with pale face and weak pulse, with restless activity, and utter want of sleep,—and in these cases the preparations of opium or morphia are most beneficial.

Their operation in effecting a cure is, however, greatly aided by that of other remedies, especially by warm bathing, by aperients when needed, by stimulants and nutritious food. The following will briefly illustrate the nature and treatment of this common case.

J. B—, a tradesman in good circumstances, for some years past given to a dissipated course of life, the frequenter of taverns and theatres. Owing to a reverse in business, he suddenly gave up his dissipated habits and remained at home, his business being conducted principally, as before, by his wife; he became low-spirited, moping, and lost sleep at nights. Suddenly this state changed to one of wild, maniacal excitement, requiring his immediate seclusion in an asylum. His face was pale, and covered with a clammy sweat, the expression that of wild terror, the forehead cool, the pulse feeble and quick. Ordered—Træ. Opii, ♏xl; Ætheris Sulph., ♏xx, 4tis horis.

In a week from admission this patient was convalescent; he had obtained some sleep from the first night, and the duration of sleep gradually increased. After recovery he told us, that during his illness the idea that he was about to be hanged was constantly present in his mind.

J. C—, a single man, in easy circumstances, of steady and temperate habits and cheerful disposition; his brother has had Melancholia. Without any known cause, a change was observed in his manner and mode of life; he neglected his usual pursuits, and moped about, silent and abstracted; then he became restless, walked about his bedroom all night long, and refused food. This state of things was allowed to continue so long that, when called to see him, we found him very nearly at death's door; his teeth and tongue were covered with sordes, his breath had the fœtid odour of a starved person, his face was of ashy paleness, his forehead cold and clammy to the touch, his pulse thready, and his body emaciated; he was reported to have had no sleep for a fortnight (this was probably an exaggeration), to have taken very little food for the same time, and none for the last three days. Wine and beef tea were given every hour; and after these had produced a slight evidence of reaction, half a grain of morphia was administered. This treatment had the effect of

somewhat improving the appearance of the patient, and calming his restlessness; a repetition of the opiate produced a few hours' sleep. The morphia was continued twice a day, and the improvement of the patient was evident from day to day. The bowels were first acted upon by aloetic injections; and when returning strength rendered anything like purgation less dangerous, rhubarb and grey powder were given twice a day. In five days the patient was able to walk in the open air, leaning upon the arm of an attendant. When first seen he was unable to articulate; but, when returning strength enabled him to do so, he gave expression to his delusions, which were — that he had no existence; that the person called J. C. was quite destroyed; and that he was nobody, and nothing. These delusions subsided, as the patient gained good nights of sound sleep; and the long convalescence which followed was principally marked by mental and physical debility.

In this case the use of opium would, we think, have been dangerous, unless combined with the free use of wine and nutritious food. It would probably have rendered the respiration,—already feeble from inanition,—still more feeble, and thus have extinguished the flickering lamp of life by impeding the calorific process, already at a low ebb for want of fuel. Food and stimulants were the first essentials; and these were administered, in opposition to the little force which the patient could employ, by feeding him with a spoon like a reluctant child. It may be doubted whether the food and stimulant alone would not have effected the restoration of the patient; but the great improvement which followed the first few hours of sleep, and which continued to follow every period of sleep, seems to point to the opiate as a remedy of at least equal importance. According to our experience, these cases with symptoms resembling typhus recover if they can be kept alive. The febrile condition appears to be the result of want of sleep, and total want of food. In cases of Melancholia, or Monomania, where absence of food has not been complete, but has been continued during a much longer period of time, and in which the patient has not entirely been deprived of rest, the appearances, though less threatening, are far more dangerous; there is an absence of the typhous appearance, the sordes of the mouth, the stupid look, the pale clammy skin, and restless motion : on the other hand, the body is far emaciated, the skin, instead of being pale and clammy, is harsh and dry; the expression of eye and feature is not stupid, but anxious. Opiates are not found to agree with such cases. The question with them is one of feeding; sometimes, however, after a long abstinence, food is taken well, and even ravenously, but it appears to do no good. Many such cases, however, in spite of every effort made to save them, gradually sink and die of inanition.

There may be some doubt as to the correct nosological position of the above cases; some would incline to place them in the class of Melancholia, or more strictly perhaps, in the subclass lypemania (Mélancolie avec delire). But, notwithstanding the nature of the delusion and the predominance of the depressing emotions, they appear to us to have a closer alliance to Mania. The leading delusion is indeed, generally melancholic, but there is that general derangement of all the intellectual functions—of attention, perception, comparison, imagination, &c. —which can only be recognised in Mania, the essence of which is a disturbance of all the mental functions, and a complete confusion of all the ideas. They appear, indeed, to furnish the connecting link between delirium tremens and Mania; and it is on this account that we have given them precedence, in discussing the treatment of mental disease principally by means of opium.

The opiate treatment of the more ordinary forms of Mania, namely, those distinguished by the excitement of pride and the combative propensity, requires a nice discrimination of the pathological condition. Opium may be most useful to one patient, who is arrogant, turbulent, violent, and most prejudicial to another with the same mental symptoms; it may be most useful to the same patient, during the prodromic and first period of an attack, injurious during the second period, and again most useful when the symptoms of cerebral congestion have been allayed by other remedies.

As a rule opiates are inadmissible in Mania so long as cerebral hyperæmia exists—either alone, or in conjunction with general plethora. When circumstances permit, these should be reduced before opiates are administered; but frequently this rule cannot be strictly followed. The commonest maniacal condition is that in which the pulse is by no means full or strong; but the head is hot, the eyes are injected, and the existence of active cerebral congestion cannot be doubted; the patient is restless and violent, and without sleep for many nights. In such a case the physician is called upon to determine between two evils. Morphia or opium, prematurely given, will increase the cerebral congestion, and do mischief. Too long delayed, equal, or greater mischief, will result from the want of repose. The violence, restless agitation, and sleeplessness of the patient, will perpetuate a degree of hyperæmia which a judiciously administered dose of morphia will often allay. There is great risk in laying

down rules, but, as a general rule, after a patient has been without sleep for three nights, a full hypnotic ought not to be withheld, notwithstanding heat of head, and other symptoms of cerebral congestion.

Practically, the physician finds himself in many cases compelled to give morphia, and to use remedies to reduce cerebral congestion concurrently by applying six, ten, or twelve leeches, to the temples, followed by cold lotions to the shaven scalp during the day, with or without an aloetic purgative, according to the state of the tongue, and the strength of the patient. This may be followed the same evening by a warm bath, with the cold still continued to the head, a full dose of black drop or morphia being given the last thing. Such treatment frequently has the most satisfactory results; the patient gets several hours of sound and refreshing sleep, and a modified repetition of the treatment, continuing the antiphlogistic or the narcotic remedies, according to the progress of the symptoms, results in a rapid cure.

The reader will find, in the Appendix, the brief records of several cases, illustrating the treatment both of the common forms of mania and of those whose management is beset with difficulty and peril. These cases it was at first intended to insert here and elsewhere in the body of this work; but it has been thought best to throw them together in a short collection of cases, apart from the principles of treatment which they tend to illustrate; since it must be remembered that doctrine never quite tallies with practice, either in medicine or in any other of the arts of life.

When a patient succumbs after the employment of energetic and complicated treatment, it is generally impossible to estimate, with any degree of accuracy, the relative share which the disease and the remedies had in the fatal result; and one can only guess at the part which any particular medicine has played. Doubtless every patient who dies under the hands of a physician (that is, of one really such, and neither a homœopathic sham nor an expectant pedant), dies partly of the remedies employed. Had the disease not been resisted, the chances of avoiding death would have been greatly diminished, and the event itself might have been much earlier; but it would not have taken place in exactly the same manner—it would not, therefore, have been the same death. Hence the assertion that the death of a patient, to prevent which active remedies have been adopted, is

the combined result of the disease and the remedies; as the oblique fall of a tree, which has been propped on its heavy side, is the combined result of wind and the direct pressure of the ineffectual prop. Now there is, in certain cases of mania, a tendency to death from asthenia,—a tendency which Esquirol pointed out, attributing it to exhaustion of the sensibility. Opium is powerfully influential in lessening this danger if it takes good effect on the system, and procures restorative sleep; but if the pathological condition is too profound for the remedy, and large doses of opium are administered without procuring the desired effect, the depressing influence of the ineffectual drug, which, in voiding its desired function, becomes a powerful sedative, is added to that of the disease, and the tendency to death from exhaustion is greatly increased. In most cases of this kind, death would have taken place from asthenia following long-continued sleeplessness, without any aid from the narcotic. Still the danger to be apprehended from this operation of opium, and especially from the salts of morphine, is one whose recognition is of much importance. The knowledge of it has often withheld our hand from giving full doses of these narcotics, when the urgent need of procuring sleep even at considerable risk would otherwise have indicated their use. The operation of opium on the diseased nervous system is very remarkable. The enormous tolerance of it in many states—for instance, in hydrophobia and tetanus—and to a less extent in severe neuralgia and other affections accompanied by intense pain, is well known. There is also a most singular intolerance of it in some other diseased states of the nervous system, which we have never yet seen adverted to. Our attention was first called to it, twenty-seven years since, by the following circumstances: a badly-situated and damp asylum ward was occupied by idiots and demented patients; the result was a dysenteric outbreak, which, in several cases, proved fatal. An eminent physician, whose advice we took respecting the treatment of the dysentery, recommended the rather free use of opium, in the form of mixture and suppository. The effect of the drug on three demented patients was most remarkable. The opium took no effect upon the cerebrum proper, but exerted the most depressing influence upon the excito-motory apparatus. The respiratory movements became more and more slow; the temperature of the body decreased, the pulse failed, and the patients sank with the general symptoms of abolition of nervous

power without narcosis upon the mental functions. There was no coma nor stupidity, the patients being fully awake to the last. Several other patients presented slighter degrees of this curious state, from which they were recovered by stimulants: but, in the three cases mentioned, the powers of life were already so much reduced by the dysentery, that the asthenia without coma proceeded, in from eight to twelve hours, to a fatal termination. In many instances, since this occurrence, we have seen the tendency to depression of the nervous power without coma, when opium has been administered to patients, the condition of whose mental faculties showed the existence of considerable cerebral atrophy; and it has taught us to be extremely cautious in the administration of opium in advanced Dementia and General Paralysis.

The state of the brain which leads to death from opiates without coma, and which seems to be a mixture of asphyxia and asthenia, occurs in other conditions besides that of cerebral atrophy. Something like it is occasionally to be seen in the treatment of delirium tremens. The patient struggles to free himself from the enemies who surround him, the imps or murderers who threaten him, the snakes which fill his bed. Dose upon dose of opium has been given, in the constant hope that each dose will succeed in procuring the curative sleep. All at once the patient falls back. His breathing becomes embarrassed, his pulse fails, and in a very short time he is dead. The asthenia in this case is sudden, taking the form of syncope; but there can, we think, be little doubt that the fatal result is due to the same cause—the depressing effect of the drug upon the spinal nervous system, assisted by the nervous exhaustion due to the disease. Had the narcotic effect of the drug taken effect upon the brain, its sedative effect upon the excito-motory system would have been obviated.

These considerations apply probably to the cases above cited. The pathological condition of the cerebrum, which occasioned excitement and forbade sleep, was too profound to be overcome by the narcotic. The drug, therefore, operated as a sedative upon the spinal system and accelerated that exhaustion of nervous power under which the patients sank.

It is extremely difficult to recognise the cases in which the danger of such a termination of treatment exists. It is to be hoped that they are cases which, under any treatment, could not have been saved, as they probably are cases in which the patho-

logical changes in the cerebrum are profound. If it is permissible to estimate the severity, or even the nature of a pathological condition, by the degree to which it withdraws the system from the ordinary operation of remedies, the pathological condition of the cerebrum which tolerates otherwise poisonous doses of opium without coma or sleep, is one from which an unfavorable prognosis may with good reason be derived. This method of estimating pathological states has the sanction of Marshall Hall, who proposed the tolerance of loss of blood as the foundation of a practical system of diagnosis. The tolerance of opium may, on this ground, be one means of prognosis in mania. If large doses produce no effect upon the cerebral functions, death from exhaustion may be feared. In some cases this event cannot be obviated; but in others, the free administration of diffusible stimulants and of wine, the outward application of dry heat, and other similar remedies, may ward off imminent asthenia. In some cases the danger will not be seen before it is too late to make any attempts to turn it aside. In acute Mania, as in some cases of delirium tremens, the patient continues agitated, restless, and sleepless; dose after dose of some opiate is administered, in the sanguine hope that each dose will be successful in causing sleep, and therefore the last required. Sometimes the most watchful attention can detect no symptoms of failing power until it suddenly fails, and all efforts at restoration are vain.

In a valuable paper contributed to the 23rd Number of the 'Journal of Mental Science,' Dr Noble, of Manchester, has pointed out the danger which exists of producing fatal *coma* in the treatment of insanity by full doses of opium; and he has well pointed out the indications by which this danger may be avoided. In our own practice we have not hitherto met with such cases; an immunity which we are inclined to attribute to the selection we have made of the cases for full opiate treatment having been somewhat different; so that the danger has presented itself to us under a different aspect—no doubt because there was a stronger original tendency in the diseased condition to pass into that of nervous exhaustion than into that of fatal coma. That full opiates were occasionally followed by comatose sleep of a dangerous character was not unknown to our predecessors. Thus, in Halloran's case, above cited, the patient passed twenty-four hours in an apoplectic kind of sleep which could not have been unattended with danger.

Opiate Treatment of Melancholy.—In the form of disease called acute Melancholy, the pathological conditions appear to be identical with those of acute Mania, in which there is want of power and tone in the system. The difference in the mental symptoms which gives rise to the difference of name is dependent upon the preponderating activity of the depressing emotions, accompanied and stimulated by delusions which cause extreme terror. This difference of mental symptoms, which arises from no fundamental difference in the nature of the disease, calls for no alteration in the medicinal treatment. The moral treatment, indeed, has to be carefully adapted to these emotional peculiarities, when moral treatment becomes possible; but, in the first outbreak of acute Melancholia, when the patient sees in the physician a stern judge, in the attendants his executioners, in the chaplain a diabolical personage; or when he believes that he has himself destroyed the world, and all that it contains, and is now himself to be destroyed; when he has not slept for many nights, and has not taken food for many days; moral treatment of any kind is impossible; the patient must often be placed in bed, and attended with soothing and gentle words, the natural expressions of sympathy which his wretched condition would elicit, but of which he almost invariably appears as little conscious as a patient in the terrors of delirium tremens is conscious of explanations that his fears are unfounded. Such cases must be treated in exactly the same way as cases of Mania. Usually, but not always, they are unattended by general plethora; usually the head is more cool than hot; there is sometimes great insomnolence; the opiate treatment, therefore, is as often essentially needful in acute Melancholia as in acute Mania; it is attended by the same risks, and must be guided by the same rules.

In the treatment of Melancholia with delusion,—the lypemania of Esquirol,—opiates are not always admissable. They are needful in proportion to the existence of irritability and a depressed condition of the cynæsthesis, in which, if there is not actual insomnia, there is very little sleep. In these cases the best form of opiate we have found to be the combination of the tincture with sulphuric æther, from 20 to 30 minims of each being taken two or three times a day. A frequent curious effect of the opiate in these cases is, that it not only does not tend to constipate the bowels, but that it regulates and promotes their evacuation. In a number of instances we have observed

this, and we have tested its reality by omitting the opiate, and finding that the regularity of the alvine evacuations was discontinued. The only explanation which we can offer is, that, by promoting a more healthy tone of the whole nervous system, the opium, in such cases, promotes the peristaltic action of the intestines.

In Melancholia without delirium, Emotional Insanity in its depressed form, opium, and expecially morphia, are invaluable. Combined whith hygienic regulations addressed to mind and body, morphia exercises over these forms of diseases the most powerful and satisfactory influence.

A gentleman of high endowments and culture, single, of studious habits, having lived in a secluded part of the country, became gradually melancholic from ennui and want of mental excitement. When placed under our care he had refused food for some time, under the double delusion that he could not afford it, and that there was no room for it in his stomach; he was emaciated and weak, and slept very little, not more than one hour in the twenty-four; the bowels were habitually constipated, the tongue foul, and the breath fœtid. A teacupful of a mixture of beef tea and good port wine was given him with a feeding-spoon every three hours during the day, a grain of muriate of morphia was given every night, and five grains of aqueous extract of aloes every morning. Improvement rapidly followed; in a month the patient was able to walk seven or eight miles a day, and the delusion had disappeared. A feeling of shyness, and want of volition, remained for many months, but yielded to gradually extended intercourse with society.

Sometimes a perverted emotion, which has become apparently fixed and incurable, is held at bay by the beneficial influence of morphia. The following is a remarkable instance:

M. L—, æt. 56, was the wife of a carpenter, who, in repairing a nobleman's mansion, fell to the ground and was killed. From this and other causes of mental distress she became afflicted with suicidal Melancholia. When in the asylum she made several attempts at suicide, and the desire appeared to be always preying upon her mind. Morphia was administered—at first in one, and then in two-grain doses, at night, with the result of overcoming every manifestation of the propensity. Under the larger dose she became actually cheerful. When it was diminished she again became depressed, but not suicidal. At the request of Lord F— she was discharged from the asylum, to be placed with her daughter, a schoolmistress, Lord F— providing liberally for her maintenance. Here she has become a regular morphine-eater, the smallest dose she can subsist upon being eight grains a day. Many attempts have been made to diminish this expensive, and, to a poor person, extravagant medicine, but with the constant effect of producing melancholic symptoms. While taking eight grains a day of muriate of morphia she enjoys good health, the tongue being clean, the pulse good, and the spirits equable, though always tending to depression. This poor woman cannot, therefore, be placed in the category of mere opium drunkards, in whom the drug produces baneful effects, not only on the mind, but also on the physical functions.

In one respect the above case is exceptional, it being rarely

needful, in cases of depressed Emotional Insanity, to administer more than one grain of morphia at bedtime. The beneficial effects of this mode of treatment have been amply illustrated by Dr Seymour, to whose papers in the 'Medical Gazette' and the 'Medico-Chirurgical Transactions' we must refer our readers for additional examples.

When morphia produces sickness, pills of solid opium may be substituted; but, as a rule, in these forms of Insanity, the muriate or acetate of morphia is preferable to any other preparation.

Hypodermic injection of the muriate of morphia we have employed with good results, and our favorable experience has been since confirmed by other observers. Thus used, it appears to act more powerfully on the system than when taken into the stomach, since we have found half a grain injected into the subcutaneous cellular tissue of the inner arm produce sleep, after double the quantity had failed when taken by the mouth. A paper upon this mode of administering morphia in Insanity by Dr. McIntosh, of the Perth Asylum, will be found in the 'Journal of Mental Science' for October, 1861. Dr McIntosh uses acetic acid to dissolve the needful quantity of acetate of morphia, subsequently neutralizing the acid with liq. potassæ. We have found it better to dissolve the muriate of morphia in boiling water, which will readily take up four grains to the fluid drachm, of which solution from fifteen to twenty minims may be injected. This is certainly a very convenient method of administering morphia in Insanity: the puncture is so trifling that it does not appear in the slightest degree to alarm the patients, and in agitated cases the little operation can be performed much more readily than a dose of medicine can be given by the mouth. It has also the great advantage of disturbing the stomach and parching or furring the tongue much less than when morphia is taken by the mouth. Dr McIntosh met with one case of dangerous coma from its use in a patient who had cardiac disease. We have not ourselves as yet observed the production of any unpleasant symptoms by it.*

In some cases, all preparations of opium are found to disagree; sometimes they produce constant sickness, with anorexia; sometimes they fail to produce the effect desired—They increase irritability, but do not induce sleep. Such cases are not numerous; and we possess no means of determining before-

* See 'West Riding Rep.,' i, 153, and 'Jour. of Ment. Sci.,' Jan., 1879.

hand in what instances these difficulties will present themselves.

Hyoscyamus.—When such cases do occur hyoscyamus may be tried; the doses, however, of this medicine usually prescribed are far too small; as a narcotic, we consider two drachms of the tincture of hyoscyamus a minimum dose; most frequently we prescribe four drachms, and occasionally six or eight drachms, combined with one drachm of compound spirits of ammonia or half a drachm of sulphuric æther.

We have never seen the slightest reason to regard the administration of this medicine, in these large doses, as attended with any special danger. Doubtless it has a virus, since it possesses an unquestionable virtue; but, with common care, it appears a safe narcotic. The most serious objection to it, according to our experience, is that it soon loses its influence, and that, although it often relieves sleeplessness for a time, patients seldom pass into a state of convalescence from its use. It is a temporising medicine, with virtues far inferior to the opiates, and no more we think can be said of its alkaloid.

The value of hyoscyamus as compared with bromide of potassium and chloral has been carefully tested by a series of experiments conducted by Dr Campbell of the Cumberland Asylum, and recorded in a paper which he read to the Medico-Psychological Society in 1871. ('Journal of Mental Science,' No. 80.) The results he obtained were that two and a half drachms of tincture of hyoscyamus were equivalent to thirty grains of chloral. He considers hyoscyamus a sure sedative in maniacal excitement, although chloral acts more quickly, and that bromide of potassium is only an hypnotic to a certain extent, not being sufficiently powerful to allay intense excitement, or to compel sleep where great insomnia exists. The method Dr Campbell adopted was to give to sleepless patients on consecutive nights the following doses of the three drugs: Tr. Hyoscyami ʒij; Potas. Bromid. gr. lx; Chloral gr. xxx. We could wish that opium had been included in the comparison. The result, however, is favorable to hyoscyamus as an important sleep producer.

We have tried many other narcotics, and reputed narcotics, in the treatment of Insanity, especially stramonium and belladonna, and the new drug, Indian hemp. Others have obtained, or thought they obtained, great benefit from these drugs. The conviction, however, which fair experiment has left on our

mind is, that in the treatment of Insanity they are, in comparison with opium, or even with hyoscyamus, of little value.

The *rôle* of stramonium is in asthma, that of belladonna in tic and iritis; but who would ever prescribe them to produce sleep, except by removing some symptom which prevents sleep?

Conium either in the form of the *succus* or as an alkaloid has been used largely by Dr Crichton Browne, and a paper of great physiological and therapeutic interest and value on its action, by Dr Burman, will be found in the 2nd vol. of the West Riding Reports. One thing, however, seems certain, that different preparations of either the succus or the alkaloid are most uncertain. Dr Burman says that conia varies so much in different specimens that too much caution cannot be observed in the use of a new specimen, until its strength is ascertained. The same remark is applicable to the succus conii of which the Continental preparations have been found much stronger and more efficient than the home-made ones. One London firm of druggists, however, does make a good succus from which we have obtained excellent results both in cases of Mania and Melancholia where there was great muscular restlessness. It appears to allay both irritability of temper and excessive mobility of muscle, and we have seen several well selected cases recover under its unaided influence. It may, however, be assisted by combination with nervine stimulants and antispasmodics especially with camphor and ammonia.

A considerable proportion of the cases in which narcotics are most useful require the aid of stimulants, either medicinal or dietetic, of highly nutritious food, and a tonic regimen, to re-establish mental health. Even the cases which require leeches to the temples, and cold lotions to the head, sometimes need the frequent use of wine and beef tea very soon after, if not concurrently with, these remedies addressed to local hyperæmia. It is with these, as with many cases of typhus in which the general strength of the system has to be maintained by wine and beef tea at the very time that local congestions, tending to inflammations, require to be obviated by local measures. The statement of this necessity in general terms is all that is possible; the practical application of it can only be learnt by careful clinical observation. The task of restoring the balance of circulation and functional power between an excited and hyperæmic organ, and a depressed state of the general system, is one

of the most delicate and difficult which falls to the lot of the physician. If local remedies are used too freely, they tell injuriously upon the general powers; if wine and nourishment are administered too early, or too largely, they augment the local mischief. In many cases of recent Mania, or Melancholia, the physician must apply his remedies to the head with his finger on the pulse, and his remedies to the system with the thermometer upon the forehead. For many years before 1862, and therefore before the use of the thermometer became general in medical practice, we were in the habit of testing the temperature of the forehead by means of a delicate instrument in which the mercury was contained in a flat helix of thin glass, which could be immediately applied to the skin of that or of any other part. In fever there is usually more danger from the failure of the general powers than from states of local hyperæmia; and the predominance of caution must therefore be given to the means needful to support those powers. But, in cerebro-mental diseases, the danger of local mischief is often more urgent; and cerebral hyperæmia must be combated, however weak the pulse. This rule, however, has not unfrequent exceptions; and in an asylum for the poorer classes at least, many cases are annually under treatment in which wine and beef tea require to be administered freely, notwithstanding that the brain may be in a state of decided hyperæmia.

An eminent authority on the treatment of Insanity has stated that typhus-like cases of mania usually die; our experience does not accord with this, and enables us to state that they frequently recover both in body and mind. The cases which we have lost have either been admitted into the asylum in a moribund condition, or (which has happened twice) have been sent thither under an error of judgment, having been actually cases of typhoid fever, complicated with delirium,—a fact which was proved by the *post-mortem* examination showing extensive ulceration of Peyer's glands.

In many cases stimulants and nourishments act as hypnotics. If the patient swallows without opposition or difficulty, it is best not to concentrate them too much. Good port wine made into negus, and freshly-made beef tea, should be administered alternately every hour, or even every half hour. When food can only be administered with difficulty, it is best to mix the wine with the beef tea, and to let the latter be strong.

Sulphuric ether, and sometimes carbonate of ammonia, are

frequently useful as medicinal stimulants; the former, however, is most useful in combination with opium; and the latter with tonics in more chronic cases.

Chloral or hydrate of chloral is a new narcotic to which certainly the objection cannot be made that it is inefficacious. We heard Dr B. Richardson read his paper on this new discovery of Liebreich and Dumas to the British Association at the meeting at Exeter, in 1869, and little thought at that time of the important part it was about to play in the therapeutics of mental disease. Since brought prominently by that paper before the medical profession in this country, this powerful medicine has passed through what we may consider the introductory stages in the history of new remedies. First it was given somewhat indiscriminately and vaunted to the skies; then its power of doing harm was ascertained and it became unduly depreciated. At the present time, perhaps, it will be more correct to say that it is passing through the second era than that it has escaped from it into the third period, when men, considering that they have a new drug of undoubted power in their hands, set steadfastly to work to determine its good and evil effects, and to discriminate the cases in which its use is indicated. Four years is not a long time for the therapeutic history of a new medicine, and we may safely assert that the real value of chloral has not yet been actually determined.

The first person who employed chloral in the treatment of the insane was Dr Saunders, our successor at the Devon Asylum, who commenced its administration immediately after Dr Richardson's paper was read, and in his Report for that year he gives the following account of the results obtained:

"As a hypnotic it deservedly ranks with opium, and often procures refreshing sleep when the latter remedy has failed. A passing notice can only here be made of the class of cases in which this remedy has been used. Its results have been most satisfactory in Mania, especially of the recurrent form, with absence of sleep, and restlessness. Patients who have passed sleepless nights, in spite of the ordinary treatment by morphia, henbane, &c., have, after a two-scruple or drachm dose of the chloral hydrate, passed a tranquil night, and had undisturbed rest, lasting from six to twelve hours. In recurrent suicidal Melancholia, with excitement, it has proved equally valuable, as was shown in the case of a man recently under treatment, who suddenly became noisy, and in an excited tone carried on an imaginary conversation with the devil, who was tempting him to dash his brains out, and upbraided him for his cowardice in not at once doing so. A drachm dose of chloral was prescribed, and in twenty minutes he fell into a sound sleep, from which he awoke much refreshed both in mind and body. On the second day after the attack he was pursuing his employment in his usual state of health. He had several previous attacks, which yielded to

treatment by other remedies, but the prompt action of the drug in this instance was very marked. It has also been used successfully in puerperal Mania. In the maniacal excitement of epileptics it has been found to exert a calmative influence. The remedy is of great service in allaying the restless excitement, with destructiveness and dirty habits, so often associated with General Paralysis. In a case of neuralgia of the face, recently under treatment, the patient had tried various remedies without effect, but was at once relieved of intense pain by a dose of chloral. One great advantage that this remedy appears to possess is that its administration is not followed by headache, loss of appetite, or sickness, neither does it diminish the secretions. It may on this account be found a valuable soothing agent in the excitement so frequently associated with phthisis and bronchial affections, where the use of opium is objectionable."

In a letter which we have recently received from Dr Saunders, he informs us that these first impressions of the value of the drug have been fully confirmed by the further experience of four years' practice, in which he has employed chloral very largely; indeed, he writes that he has administered quite 2 cwt., or 224 lbs., to the patients in the Devon Asylum, and, as he considers, with almost unvarying success. He has found it of great value in the ordinary forms of acute and recurrent Mania, in Mania a potu, and in Delirium tremens. He seldom, however, prescribes a larger dose than half a drachm, to be repeated, if necessary, to produce sleep. In smaller and more frequently repeated doses it produces calmative effects, and Dr Saunders writes that he has patients now under treatment who have taken fifteen grains three times a day for many months, and who become very dejected, haggard, and wretched if the medicine be stopped for a single day, and in these smaller doses it does not produce heaviness or stupidity, and the patients thus tranquillised are often capable of being employed. This latter point is of great importance, for if the chloral hydrate does not cure it may obviously become a means whereby influences more directly remedial may be applied, whether moral or medicinal, and this is the view which Dr Sherlock takes of its value. He says, "It is not considered to be a remedy having much curative power over the progress and course of mental disease, but it is of undoubtedly high value in procuring rest and sleep without much, if any, constitutional disturbance; so that time is afforded for the due exercise of other moral and medical treatment." ('Worcester Report' for 1872.)

An important and valuable paper on the use of chloral hydrate, by Dr J. B. Andrews, of the New York Asylum, was published in the 'American Journal of Insanity' for July, 1871. Dr Andrews' observations, which are accompanied by sphygmo-

graphic tracings, show that the physiological effect of the drug is, first, to reduce the heart's pulsations from eighty-four beats to fifty-four, and to increase the force of the heart's action and the arterial tension; large doses do not proportionately diminish the number of the heart's pulsations, although this effect is more prolonged; the secondary effect is to diminish the heart's action and the arterial tension.

Dr Andrews considers that its advantages over other narcotics are, that it almost always causes sleep of from four to eight hours' duration; that the sleep resembles natural sleep so far that the patient is easily awakened from it; that it is better tolerated by the stomach than other sedatives; that it does not constipate the bowels nor disturb the secretions; that it does not diminish the appetite; that it does not lose its effect by repetition, and indeed, that the dose may often be diminished when the patient has become accustomed to its use, and seldom needs to be increased.

When the need of its use has ceased it often for the first time becomes disagreeable to the patient.

It would be easy, did our limits permit, to supplement from various sources this testimony of the value of chloral as a hypnotic and tranquillising agent. The unfavorable testimony, on the other hand, is almost equally strong, and unfortunately for the reputation of the drug it is mainly directed against a fatal defect to its character as a remedy which has not yet been met by any positive evidence, namely, that, granting its efficacy in producing sleep, it does not tend to cure or even to shorten any form of mental disease. The sleep of a maniacal patient or of a melancholiac produced by opium has a restorative and remedial effect, which no one denies, but the sleep produced by chloral, it is averred with a concurrence of testimony which can scarcely be doubted, leaves the patient very much where he was before and no nearer to the goal of recovery. On this point Dr Blandford well observes :

"Chloral will produce sleep with certainty if the dose be large enough. Some have said that this sleep is useless; that procured by this means it does not shorten the attack. Experience of the drug is as yet limited, but I cannot but think that six or seven hours' sleep, even of this kind, repeated night after night, must be in the end beneficial, and must tend to shorten, not to prolong the disorder." (Op. cit., p. 241.)

But does it shorten the disorder? It would seem a great point gained that a patient suffering from acute Mania

should have a good night's sleep secured for him, and should awaken in the morning with strength in some degree reinvigorated to withstand the renewed access of excitement, with a clean tongue, moreover, and an appetite for food, which will replenish the strength, and support him onward through the battle with disease. From our own observation we do believe chloral to be a far more temporising remedy than opium. As a curative agent, indeed, we think it is not to be compared with the vegetable narcotic. Yet, as there are many cases in which opium is contraindicated, and in which chloral is safe and efficacious as a hypnotic, its value as a temporising remedy must be admitted to be very considerable. Supposing even that two cases of acute Mania have run pretty much the same course in duration and termination, yet in one the nights have been spent in quiet sleep induced by chloral, and the other has presented one continuity of restless and noisy insomnolence, it can scarcely be doubted that the drug has had a practically good effect. In suicidal cases the security gained by the prolonged nightly sleep of chloral is a temporising advantage of great value. Moreover, the cases of restless sleepless Mania and melancholia, in which opium and all its preparations absolutely fail to procure sleep, are often found to be amenable to chloral. We remember watching such a case with great anxiety just after chloral first came into use. All the preparations of opium were tried in vain, but chloral acted like a charm; the dose, however, was steadily diminished, and in ten days natural and restorative sleep was gained.

Little as yet has been ascertained as to the therapeutic combinations of chloral, the most important of which, as far as we have yet seen, is that of its use with morphia. From this most important combination we have known the best effects, Fifteen grains of chloral, with a quarter of a grain of muriate of morphia, will often produce sleep which morphia alone would not effect, and after sleep leave a far greater amount of nervous tranquillity, and a tendency towards recovery which chloral alone would not induce.

The combination of chloral with stimulants is only less important than that with morphia. Chloral alone frequently, if not always, has a depressing effect in hypnotic doses. We have seen the awakening from its sleep attended with great wretchedness on this account, but this effect can be counteracted by administering it in combination with spirits, whisky, wine, or

porter ; and Dr Clouston, whose authority on therapeutic agents is very high, recommends that it should always be so administered, not in small and repeated doses, but in one hypnotic dose, and mixed with a stimulant.

The class of cases to which chloral seems to be most suited are those in which sleeplessness appears to arise from exhaustion of the brain, cases of Dementia with intercurrent maniacal excitement, cases of Mania in old age, of insanity following prolonged lactation, and many others in which a similar pathological condition may be diagnosed, and it is exactly in these cases that its combination with a stimulant is indicated—old Scotch whisky is as good as any. Dr Clouston has informed us that in his hands it has been efficacious in averting the maniacal excitement which so frequently follows an epileptic attack. "The sleep that so commonly follows the fits seems to be nature's mode of allowing the disturbed brain to rest and right itself. Now, we can imitate nature in this particular, and produce in an epileptic who is beginning to show signs of excitement a long and deep sleep by means of a dose of twenty-five grains of choral with the best effects." In the sleepless excitement which occurs in General Paralysis it is also beneficial. Some physicians maintain that its use in this disease hastens the downward progress of the case, but in these and in epileptic cases its use should of course be interrupted when the immediate purpose has been served.

Certain inconveniences and dangers which attend the frequent use of chloral are under discussion by psychiatric physicians, but as yet there is little concurrence of opinion respecting them.

In a certain number of cases the drug does undoubtedly produce nausea and vomiting, and in these cases its use must be interrupted. Dr Richardson has pointed out its toxicological effects ('Jr. Mental S.,' No. 81, p. 118), but these are scarcely important from our point of view, with the exception of the fall in the bodily temperature, which also accompanies its therapeutic action, and indicates the prudence of sustaining the external temperature during its administration. When large doses fail to produce an adequate effect, the drug will probably be found to be passing off rapidly by the kidneys. Liebreich thought its action due to the evolution of chloroform from the alkalinity of the blood, and if so a defect of alkalinity may tend to interrupt its action, and to send it off in the urine unchanged.

This estimate of the uses of chloral in Insanity was cri-

ticised, when first published, in 1874, as being too depreciatory of the new drug. It will now probably be considered too favorable, but our own extended experience leads us to abide by it as a just and true estimate of the value of the drug. Chloral we consider to be rarely curative, but frequently useful in alleviating distressing sleeplessness or more distressing violence after the epileptic paroxysm. In unskilful or unscrupulous hands there is great danger of its abuse, in which case it may well merit all the hard epithets which have been applied to it. We have seen cases in which Insanity appeared to have been produced by its voluntary abuse, and cases have been reported to us of Insanity from other causes in which its administration was followed by the development of delusions, which ceased when it was stopped. If there be any drug which can produce Insanity it would seem to be chloral, and certainly its abuse may prolong indefinitely the duration of Insanity arising from other causes. But all this being conceded, it remains a powerful remedy in skilful hands against distressing symptoms; and if all remedies capable of abuse were to be excluded, the Pharmacopœia would be a *tabula rasa*. The dangers of chloral abuse have been well stated by Dr Savage in a paper published in the 'Journal of Mental Science' for last January. Now they are so well known any asylum physician who uses the drug largely, and without cautious discrimination, will probably run the risk of being thought to care more for the tranquillity of his wards than for the curative treatment of his patients.

But notwithstanding that there are not many cases in which we should prescribe chloral in the first instance, and still fewer in which we would continue its use for any length of time, there are cases in which, other remedies having failed to produce sleep, we should think it right to resort to this drug. A full dose after an epileptic fit to avert the maniacal excitement which in the case is known to follow the fit, is the more direct indication for the use of chloral. Cases of *mania a potu* also often do better under chloral than under any other remedy, but the cases in which chloral will be an efficient and safe means of producing sleep after other remedies have failed are not easy to indicate. Notwithstanding many weighty opinions to the contrary, we think that chloral is not so injurious, where cerebral congestion exists, as the preparations of opium, and that it will be found best to suit well-nourished patients. The danger of its use being in depressing nerve and brain power, the safety and

benefit of its employment will be found in those cases where the nutrition of the nervous system is so active that its functions are not easily depressed by the drug. In many cases, not easily determined without trial, chloral will be found a most useful sleep producer, and though the mischief it may cause must never be forgotten, it is but folly to denounce a great power in the hands of the physician because it may be used with rashness or ignorance.

Bromide of Potassium is not a new remedy, but an old one applied to new uses. It is of greater value than chloral as a therapeutic agent in the treatment of Insanity and its complications, because it is very often and undoubtedly remedial and curative, a quality which is denied to the other drug. It was prescribed with success by Thielmann and also by Binet in 1858, in doses of from one to two grammes every two hours, against satyriasis and priapism with nocturnal pollutions (Morel, 'Traité des Mal. Mentales,' p. 783), and its efficacy in repressing undue sexual excitement is still recognised as one of its undoubted and important uses. It is of undoubted efficacy in the cure or the amelioration of epilepsy, but its value as a narcotic and a calmative has also been established by a series of experiments and observations conducted with such scientific method by Dr Clouston, now of Morningside, that we may safely trust his conclusions without too much fear of the opinions which were announced at the Société Médico-Psychologique, or in elaborate papers which have appeared in the German journals, which seem simply to prove that in the absence of systematic observation there may be even among learned and scientific men *quot homines tot sententiæ*. For a good history of this diversity of opinion our readers may refer to the 'Correspondenz Blatt für Psychiatrie' for June, 1872, by Dr Katz, but a perusal of Dr Clouston's and Dr Campbell's paper in the 'Journal of Mental Science,' Nos. 67 and 80, and of Dr Clouston's Fothergillian Prize Essay, published in the 'British and Foreign Medico-Chirurgical Review,' Oct., 1870, and Jan., 1871, will repay them better. By Dr Clouston's kindness we are able to place before our readers his latest conclusions, which he has communicated to us in the following terms:

"*The bromides of potassium, sodium, ammonium, and iron.*—I should place these at the very head of the list of neurotic drugs whose use is indicated, and whose beneficial results are proved, in a large number of cases of Insanity. Some of the

best men in the medical profession in Great Britain, the Continent, and America, concur in this opinion. The bromide of potassium is on the whole by far the most efficacious and the least hurtful of all the bromides. An Italian physician, however, claims for the bromide of iron all its virtues, with many important ones of its own besides.

"*Class of cases in which bromide of potassium is most indicated.*—1. Epileptic Insanity, beginning with gr. xv, three times a day, increasing up to gr. xxx or xxxv. The best dose for the greatest number of cases is gr. xxv, three times a day (after meals). In a large number of cases it diminishes the number of fits, lessens the irritability, mental and motor, the body-weight increases, and the temperature gets lowered. Remarkable improvement may be expected in about one fourth of the cases, perceptible and real improvement in another fourth, improvement in some respects with compensating disadvantages in another fourth, and no effect or ill effects in the last fourth of all the cases to whom it is given, speaking roughly. As yet no general rules that are quite reliable have been laid down as to the kind of cases in which it is likely to be beneficial, but often the more frequently the fits occur the more good it does.

"It is much less beneficial in Epileptic Insanity in women than in men. Its use may be continued for years with the original benefit *when the proper dose for the individual has been discovered.* This point is of the greatest importance, for it has been pretty well proved that its good effects result from a partial saturation of the system with the salt. It passes off by the kidneys, and its elimination proceeds at most different rates in different people. If this power is very great in any individual and a quantity of the given salt is at once thrown out, it does little good. If, on the contrary, it accumulates too much, its poisonous effects show themselves. I have cases under my care who have been taking it regularly for the last six years, with the original benefit to them, and no harm whatever." (My experiments and observations with the drug in epilepsy are contained in the 'Journal of Mental Science,' October, 1868.)

"*Effect of the bromide of potassium in Epileptic Insanity.*

"*Summary.*—1. Twenty-nine cases of epilepsy of old standing, all having the same diet, and subject to the same conditions, were subjected to systematic treatment by bromide of potassium after their normal condition as to fits, weight, temperature, general health, and mental state, had been ascertained and noted. I gave them

gradually increasing doses of the medicine up to fifty grains, three times a day, and the treatment was continued for thirty-eight weeks, every particular in regard to the disease and in regard to their bodily and mental condition being noted every week during that time.

"2. The total number of fits taken by the patients fell gradually under the use of the medicine to one sixth of their average number without medicine.

"3. The fits taken during the day were lessened to about one twelfth, and those taken during the night to about one third of the normal number.

"4. The reduction in the fits was not uniform in all the cases. In one case it amounted to 24,000 per cent., in one half of them to more than 100 per cent., and in five cases there was no reduction at all.

"5. In one fourth of the cases the fits were much less severe, in some being less severe, while as frequent as before.

"6. In one fourth of the cases the patients' mental state was very greatly improved. Nervous and mental irritability and tendency to sudden violence were wonderfully diminished in those cases, and they were the worst of the patients in that respect. Attacks of epileptic mania were diminished. In some cases the mental state was improved, while the fits remained as frequent as ever.

"7. The majority of the patients gained considerably in weight, while the doses were under thirty-five grains three times a day. Their aggregate weight was greater at the end of the thirty-eight weeks than it had been to begin with, though it began to fall after thirty-five grain doses had been reached.

"8. The patients' temperature fell somewhat until they got up to fifty-grain doses thrice a day.

"9. The pulse gradually fell about seven beats up to forty-grain doses. After that it rose, but not up to its usual standard, without medicine.

"10. None of the patients suffered in their general health except five. All the others were benefited in some way, except one.

"11. The ill effects produced by the medicine in those five cases were torpor of mind and body, drowsiness, increase of temperature, loss of weight, loss of appetite, and in three of them slight double pneumonia.

"12. The cases most benefited by the drug were very various as to the causes, number, and character of the fits, age, and in every other respect. On the whole the cases who took most fits benefited most.

"13. The cases in whom the medicine had ill effects had all taken fits from childhood, were all very demented in mind, and took more than one fit per week, but seemed to have nothing else in common.

"14. The diminution of the fits and all the other good effects of the medicine reached their maximum in adults at thirty-grain doses three times a day, while ill effects were manifested when thirty-five-grain doses three times a day were reached.

"15. There seemed to be no seriously ill effects produced in twenty of the cases by fifty-grain doses of the medicine thrice a day, continued for ten weeks.

"16. When the medicine was entirely discontinued in all the cases the average number of fits increased in five of the cases benefited, to or beyond their original number in four weeks; in thirteen cases they remained considerably less. The total average during that time was a little more than one half the number of fits taken before the medicine was given, and the greatest number of fits occurred in the second week after the medicine was discontinued."

"*Climacteric Insanity in Women.*—This variety of Insanity in my experience benefits most by the bromide next to Epileptic

Insanity. In its early stages I am sure I have seen attacks cut short by it, given in 3j doses. It calms the irritability, soothes the fearfulness, and overcomes the sleeplessness of this variety of Insanity in a larger number of cases than any other drug in my experience. If judiciously given, cases may very often be kept at home instead of being sent to asylums.

"*Senile Insanity* is often much benefited by it; but its *continuous use* must, if possible, be avoided in these cases, on account of its ill effects showing themselves.

"*Hysterical Insanity* is often cured by it in combination with valerian.

"The *Insanity of Puberty* may in some cases be most successfully treated with the bromide in large and continuous doses (from 45 grains up to 90 three times a day), until the patient gets under its influence. Attacks of this disease can certainly in some cases be cut short by it. The acutely maniacal form of this disease is most benefited.

"The *Insanity of Alcoholism* is most markedly benefited by it, given through the day, with a dose of chloral at night to cause sleep.

"In *Uterine Insanity* and *Ovarian Insanity* it is often most useful.

"In the preliminary stages of Insanity before the symptoms have actually developed into decided psychical aberrations, when the symptoms are chiefly sleeplessness, irritability, restlessness, commencing want of self-control, I know of no drug equal to the bromide of potassium for calming the irritability present. It does not interfere with the appetite (sometimes it increases it), and seldom produces any bad symptoms.

"In all cases where continuous and large doses of the bromide are given the tongue must be watched. It always shows an ill effect, first by producing whiteness of the tongue, and it must be at once stopped when this is seen. Even after it is so stopped its effects will continue for days, showing its cumulative action. It sometimes causes slight paralysis of the muscles of the fauces, as well as partial reflex insensibility there. A troublesome variety of acne is another unpleasant effect of this drug, the only effectual treatment of which is to stop the medicine.

"*Combination of the bromide of potassium with other neurotics.*—The action of the bromide on the nervous system being in many respects quite peculiar—tending to calm irritability,

motor and sensory, and to produce motor paralysis if pushed far—it has been combined with the vegetable narcotics, such as Indian hemp, hyoscyamus, and opium, with remarkably good effects. I made a series of careful experiments in regard to the effects of its combination with Indian hemp (Fothergillian Prize Essay, 1870, 'Brit. and For. Med.-Chirurg. Rev.,' Oct., 1870, and Jan., 1871), and the following were some of my conclusions:

"3. A mixture of one drachm of bromide of potassium with one drachm of the tincture of Cannabis indica is more powerful to allay such excitement than any of the other drugs or stimulants tried. It is more uniform and certain in its effects, more lasting, interferes less with the appetite; and to produce the same effect the dose does not require to be increased after long-continued use.

"5. By giving bromide of potassium and Cannabis indica together, not only is the effect of either given separately immensely increased, but the combination has an essentially different action from either of them given alone.

"6. Bromide of potassium alone can subdue the most violent maniacal excitement, but only when given in immense and dangerous quantities, and its effects are so cumulative while so given, that after they have once begun to appear they increase for days after the medicine has been stopped, almost paralysing the cerebrum and sympathetic.

"7. To produce sleep in mild excitement, one drachm of the bromide of potassium is about equal to half a drachm of laudanum. To allay maniacal excitement forty-five grains of the bromide and forty-five minims of the tincture of Cannabis are rather more than equivalent to a drachm of laudanum.

"8. Seven cases of chronic Mania were treated for twelve weeks with opium, in doses rising gradually from twenty-five minims of the tincture up to ninety minims three times a day, and the results noted. After getting no medicine for several months the same cases were treated with a mixture of bromide of potassium and Cannabis indica in gradually increasing doses, and the results noted and compared with those of the opium treatment.

"9. Under the opium treatment the patients all lost in weight continuously; their morning temperature was lowered, and also their evening temperature, but the latter (which was too high, and its being high was a bad sign) very slightly, and their pulse was decreased in frequency. The opium allayed the excitement in the larger doses, but it soon lost its effect.

"10. Under the bromide of potassium and Cannabis indica treatment the patients only lost in weight very slightly for the first six weeks, and after that they gained, their weight being more at the end of eight months' treatment than it was to begin with. Their appetites were not interfered with. Their temperature fell, especially their evening temperature, and the pulse was slightly increased in frequency and weakened in force, while the excitement was subdued, and the medicine showed no signs of losing its effect, even after being thus used for eight months. The maximum of good effects and the minimum of the ill effects of a sedative drug were thus obtained by using the bromide of potassium and the Cannabis indica in combination.

"11. The bromide of potassium alone may be continued for months in doses of half a drachm three times a day, and the patients gain in weight and remain healthy in body, but the proper dose, whether given alone or along with Cannabis indica, varies greatly in different cases.

"12. Cannabis indica being a diuretic, and the bromide of potassium being carried off by the kidneys, it is probable that the former in that way helps to prevent the cumulative action of the latter when given alone.

"13. When the two are given together, the first symptoms developed are those of the Cannabis indica, but these soon merge into a state of drowsy calmness of the nervous system which is in all respects the opposite of nervous irritability.

"14. Fifty-one cases of various forms of Insanity were treated by bromide of potassium alone or along with Indian hemp, and the results were that eighty per cent. of these were benefited more or less in some way, and twenty-five per cent. were most decidedly benefited.

"15. The milder cases of Puerperal and Climacteric Insanity were sometimes remarkably benefited by drachm doses of the bromide of potassium given at night.

"16. In some of the cases of acute Mania the excitement was subdued in a few days by the bromide combined with Indian hemp, in doses of from half a drachm to a drachm of each given three times a day.

"18. In three cases of periodic Mania, attacks were cut short by a mixture of the two medicines, or by the bromide alone. In one of these complete recovery followed.

"19. Fewer cases of simple Melancholia were benefited by the bromide alone or along with Indian hemp than any other form of insanity. Some were made worse by them, but in one case of this disease, where there was great excitement and hallucination of hearing and suspected organic disease of the brain, the combination gave immediate and complete relief of all the symptoms for four months.

"20. One case of senile Mania was successfully treated at home by a mixture of the bromide of potassium and tincture of Cannabis indica, when she was to have been sent to an asylum. It seems probable that some such cases, and also patients with short attacks of mania, might be treated by the same medicines at home, when at present they have to be sent to lunatic asylums, on account of the want of such a safe and powerful sedative.

"The combination of the bromide with hyoscyamus has much the same effect as its combination with Indian hemp, in certain cases acting better and in certain others not so well. It does not make the pulse so weak as the Indian hemp combination does in some cases. When combined with opium its effects are so completely lost in those of the latter that they are scarcely seen.

"In regard to the relative efficacy or strength of certain neurotics, my friend and late assistant, Dr John A. Campbell, prepared certain experiments which may be relied on, and his conclusions are as follows :

"1st.—That both chloral and tincture of hyoscyamus are sure sedatives to maniacal excitement.

"2nd.—That of these two medicines chloral is the most certain sleep-producer.

"3rd.—That chloral acts more quickly than tincture of hyoscyamus.

"4th.—That though bromide of potassium in such doses is a sedative to maniacal excitement, and to a certain extent a hypnotic, yet it is not a sufficiently powerful sedative to allay intense excitement, or a hypnotic to compel sleep where great insomnia exists.

"5th.—That a two-drachm dose of tincture of hyoscyamus is not quite equivalent

to thirty grains of chloral. Two and a half drachms would probably be as nearly an equivalent as could be given. From the different sedative and soporific power of bromide of potassium, I think one can hardly form an idea of an equivalent dose. It appears to me to be useful only where the excitement or insomnia is of a slight character."

The paper by Dr Jules Falret, in the 'Annales Médico-psychologiques,' 5th vol., 5 série, p. 161, on the action of bromide of potassium on the epileptics of the Bicêtre, is very valuable.

Dr Falret observed that from its use irritation of the throat was frequent, though transitory, and more unpleasant than painful.

Some patients had pain in the stomach, with sensation of heat, difficulty of digestion, sometimes mucous vomiting, sometimes not; *un malaise stomachal nerveux*, usually not intense nor durable, and many patients did not experience this inconvenience.

Almost all the patients presented in various degrees the cutaneous eruption. So long as the dose is under three or four grammes a day, this acnè does not manifest itself; but generally after the dose has passed four grammes one sees pointed and acuminated "boutons," like those of acnè, on the face, the shoulders, and the back. Sometimes after two or three years this eruption becomes so painful and rebellious to external remedies that one is obliged to diminish the dose of the bromide, or even to suspend it completely, to make the general eruption cease, which has become an evil more grievous and painful than the epilepsy itself.

The drug being stopped, the eruption decreases rapidly and soon disappears, but then also the epileptic attacks, which have been greatly diminished, reappear with new force and greater frequency, and we have to renew the use of the bromide.

The great proportion of the patients who take bromide for any length of time emaciate and become pale and yellow (*jaunissent*), although continuing to seem well and to eat with good appetite, and the bromide almost always produces one effect, namely, to diminish or even completely to destroy the energy of the genital functions.

After prolonged use of the bromide in considerable doses, sometimes the intelligence degrades in a remarkable manner. The memory is lost, and the patient arrives *jusqu' à l'hébétude*. In others somnolence or a comatose state indicates a kind of saturation from the accumulation of the drug in the system.

Falret has given the bromide to fifty epileptics, and to half of them for three years continuously. In half of the whole number there was no appreciable result; they remained exactly as they were before with regard to the epilepsy—with the same number of fits of the same intensity as before. In the other half an amelioration either in the malady or in some of its symptoms took place. In the greatest number of these a simple diminution in the intensity or in the number of the fits took place, and in the remainder the malady was so far ameliorated, or even for a time suspended, as to make one ask whether it was not really cured.

The most favorable cases for the bromide are those in which there is no pronounced mental trouble, nor vertigos, nor absences, and in which the epileptic attacks, although intense and well characterised, are separated by sufficiently long intervals—*les epilepties simples, avec grandes attaques elonguées, sans vertiges ni absences.*

The night attacks disappear sooner than those of the day.

The patients who suffer from maniacal excitement before the attack see this dis-

appear before the attack does so. The grand attacks diminish in frequency and intensity before they disappear.

The patients most improved retain three or four attacks in the year.

The grand attacks disappear before the absences and the vertigos, these often continuing after the fits cease.

These symptoms (absences and vertigos), seeming to be an incomplete or abortive epilepsy, resist the action of the bromide most.

Digitalis.—This remedy has been strongly advocated by Dr Lockhart Robertson and by Dr Duckworth Williams, his successor at Haywards Heath. We have had experience of its value in cases of Insanity complicated with heart disease, in which it undoubtedly diminishes the irritability and equalises the action of that organ. We have also in a few cases given it with the intention of reducing cerebral excitement, and we think, from the recorded experience of the physicians above named, that it is an important medicine for the latter purpose. Dr Robertson's first paper will be found in the 'British Medical Journal,' October 3rd, 1863, and a subsequent one in the 'Journal of Mental Science,' No. 48, p. 547, and that of Dr Williams in No. 56 of the same journal. The conclusions arrived at are—

"1. That digitalis is a valuable sedative in the treatment alike of recent and chronic mania, and when those forms of disease are complicated with general paresis and with epilepsy.

"2. That the average dose of the tincture is from ʒss to ʒj, and that this quantity may be certainly given for several days with impunity, and subsequently—adjusted to the state of the pulse—may be advantageously used for many months.

"3. That the indication by which the use of this drug is regulated is the state of the pulse, any marked intermittence requiring its immediate discontinuance.

"4. That the weakness of the circulation is no indication against its employment; on the contrary, experience shows that the most enfeebled subjects bear its administration as well as the most robust.

"5. That when sickness and a tendency to syncope follow the use of digitalis, without at the same time a corresponding abatement of the excitement, a combination of the drug with chloric æther, morphia, and hydrocyanic acid, in some such proportions as those above given, often produce the desired results, which the digitalis alone has failed to obtain."

Ergot of rye.—Dr Crichton Browne has made a number of experiments with this drug, and arrives at the conclusion that it

is of decided use in (1st) recurrent Mania, (2nd) chronic Mania with lucid intervals, and especially (3rd) epileptic Mania. "In these forms of cerebral derangement," he observes, "I have found it almost uniformly efficacious in reducing excitement, in shortening attacks, in widening the intervals between them, occasionally in altogether preventing their recurrence, and in averting that perilous exhaustion by which excitement is so often succeeded." Dr Browne explains its beneficial action by its influence in contracting the vessels of the brain, and administers the liquid extract of ergot in doses of from ʒss to ʒj three times a day, or ʒj to ʒij of the pharmacopœial tincture. (See the 'Practitioner,' June 1871, and the 'West Riding Medical Reports,' vol. ii, p. 230.)

Calabar Bean (*Physostigma venenosum*).—To Dr Crichton Browne we owe the knowledge of this remedy, especially in the excitement arising in the course of General Paralysis. The dose of the extract is from a quarter of a grain to a grain. (On the action of Calabar bean see Dr T. R. Fraser's article, 'Trans. Roy. Soc. Edin.,' vol. xxiv.) The influence exerted on the pulse by this drug has been referred to in the section on General Paralysis, p. 321 of this volume. Several cases of General Paralysis which derived benefit from its use are given in Dr. Savage's paper in 'Guy's Hospital Reports,' 1878.

Stimulants.—Of dietetic stimulants there is great choice. The various fermented juices of the grape are those we prefer, selecting port, sherry, champagne, claret, or hock, according to constitutional indications. Well made egg-flip is sometimes useful, the *spiritus vini gallici* of Pall Mall, or the more homely recipe of egg and sugar beaten up with old ale, a nutritious and comforting beverage, upon the daily use of which we have seen great progress made towards health and strength. The ordinary diet of insane patients when, in chronic stages, it becomes part of regimen, instead of part of direct treatment, should be ample and nutritious. Patients from the higher classes of society will often improve by living somewhat below their average custom, and those from the lower classes far more frequently by living above it; but for one patient who is likely to be injured by a too full diet, causing plethora, twenty are likely to derive the utmost benefit from an abundant supply of stimulating nutrition.

In acute maniacal delirium the life of the patient, and with life his probable recovery, will depend upon the frequent admi-

nistration of dietetic stimulants and food. The proper treatment very much resembles that of a delirious typhoid or typhus patient. The muscular prostration of the latter, however, is absent, and the patient, instead of lying in his bed, and even sinking towards the foot of it, will wander about in ceaseless activity almost up to the time when fatal sinking comes on. In such cases place the patient in a small room, the floor of which is covered with mattrasses and bedding, and have one or more nurses with him constantly to keep him in a recumbent position, that the heart may have less work to do in supplying the brain with blood, and then feed and stimulate as you would in idiopathic fever to keep him alive. We have most faith in port and strong beef tea given every two hours; but brandy and eggs, rum and milk, and other strong soluble diet combined with stimulants are useful variations. If you can get the patient to swallow solid or half solid food, by all means do so, for there is no fear of solid food irritating ulcerated intestines, as in fever. In these cases, also, endeavour to procure sleep by warm baths with cold lotions to the scalp or the ice cap; but beware of hypnotics.

On the use of Purgatives and Aperients.—The purgative treatment of Insanity by hellebore is the oldest on record, and it still enjoys some traditional favour. In the treatment of many troublesome symptoms which arise in the course of chronic and incurable Insanity, a brisk purge is often more useful than any other remedy; but, as a means of curative treatment, active purgation is, according to our experience, of little value. Theoretically, a purge is supposed to be a powerful derivative from the brain, not only by actually diminishing the bulk of the circulating fluid, but by causing a state of congestion of the intestinal mucous membrane, which derives from other parts. A headache, or sense of headfulness from plethora, is easily and speedily removed by a purge; and, in chronic Insanity, the transitory excitements which are so common from this cause, often yield to a full dose of neutral salts, or to one of compound jalap powder, or to one of compound gamboge pill. But in treating acute Insanity with a curative intention, active purgation does not appear to exercise that influence upon the state of the cerebral circulation which might have been expected from its undoubted service in the conditions we have mentioned. Constipation, indeed, frequently exists, and needs to be obviated; otherwise it becomes a source of disturbance, by perpetuating

nervous irritation, and preventing the needful depuration of the blood. The most certain and useful medicine for removing constipation is a full dose of castor oil, to be repeated from time to time as occasion may demand; a daily dose of aloetic aperient in quantity sufficient to ensure one or two evacuations, is also of the utmost service. For this purpose, five or six grains of compound rhubarb pill, or four grains of extract of aloes with two of extract of hyoscyamus, will be found useful forms. When the state of the secretions and the colour of the skin indicate a deficient flow of bile into the intestines, the liver may be stimulated by a few moderate doses of hydrarg. c. cretâ, or blue pill. As a rule, however, mercurials do harm in a state of acute insanity.

Counter-irritation and Derivation.—The use of external derivatives, with a curative intention, if employed in the right cases, and at the right time, affords important and satisfactory results. The use of tartrate of antimony to the shaven scalp, in Insanity, was strongly recommended by Dr Jenner, who brought himself to believe that almost all cases were curable by its means, a persuasion in which he was of course very much mistaken, but which was, doubtless, grounded upon a limited but successful experience. The same remedy has been more recently advocated by a German alienist of high reputation, Dr Jacobi, of Siegburg. Before we were acquainted with the views of the above physicians, we had adopted the use of a counter-irritant, producing a purulent discharge upon the scalp resembling that of the antimonial ointment. This remedy is the oleum tiglii, rubbed into the shaven scalp. We had seen the practice adopted by Dr William Stokes, of Dublin, in some cases where, during convalescence from typhus fever, the patients had passed into a state resembling dementia, and in other instances, into a state of semi-coma. The benefit derived in these instances from this powerful counter-irritant induced us to try it in cases where, upon the subsidence of the symptoms of acute insanity, the patients were gradually passing into a state of chronic insanity or dementia. The result was most satisfactory, and after the experience of many years, we can recommend it in such cases the counter-irritation of the scalp thus produced, after the subsidence of acute symptoms, and when the head is cool and there are no signs of plethora. We have also found it very useful in many cases of chronic melancholia with delusion. The proper application of the oil

requires some little attention and skill. Upon a scalp of average texture, half a drachm of the oil, rubbed in with the palm of the hand for twenty minutes, will produce the desired effect: upon the scalps of coarse or fine-skinned persons an increase or diminution of oil and rubbing is needful. It is also needful to watch restless patients for a few hours subsequently, to prevent them from rubbing their hands over the scalp and face, and producing pustules upon the latter.

It will be found that this mode of counter-irritation is far more manageable than the antimonial ointment so much employed by French alienists, and which Morel says sometimes causes necrosis of the cranium, and it is more efficient and less likely to be rubbed into an irritable sore than the common cantharides blister. Setons in the nape we have tried in many cases, and they sometimes appear to aid the operation of medicines.

Tonics.—The use of tonic medicines in Insanity is extensive and frequent. Sulphate of quinine, dissolved in port wine, is the most useful form, and often does good in the later stages of mania, when the system is broken down, either by the exhausting processes of the disease, or by the want of food, and the other sources of exhaustion to which neglected cases are often exposed. Bitter infusions, with carbonate of ammonia, or with the mineral acids, are sometimes useful, when wine and quinine would prove too stimulating. The various preparations of iron are indispensable in anæmic menorrhagia and other conditions where the blood is poor and the heart is weak. The preparations we prefer are the old tincture of the sesquichloride, and the ferrum redactum, and as a milder preparation the citrate. The former of these preparations has been found useful in checking the tendency to wet habits.

Electricity.—Dr Allbutt, of Leeds, brought the electric treatment of Insanity prominently under the notice of alienist physicians in the second volume of the 'West Riding Lunatic Asylum Reports,' 1872, his experiments having been performed at that institution. Two years previously a paper appeared in 'Griesinger's Archiv' on this subject, by Arndt. Dr Allbutt concluded that cases of acute primary Dementia were most benefited by the electric treatment; that distinct improvement, but to a less degree, was observed in Mania, Melancholia attonita, and perhaps recent secondary Dementia; that no change was noticeable in chronic Dementia and in some cases of Melancholia; and,

lastly, that the result was unfavorable in hypochondriacal Melancholia and perhaps brain-wasting. The most recent trials of the effect of the continuous electric current have been made at the Sussex Asylum, at the suggestion of Dr Williams, by Dr Newth. A Stöhrer's battery was employed, a low power being tried in the first instance, and indeed more good appears to have resulted from a moderate than a powerful application. "In some cases the hands or feet were placed in a basin of acidulated water with one of the electrodes dipping in it, the other being applied to the head or spine: this increased the receptivity, and by leaving both hands or feet in the water it was possible to send a current up or down both extremities at the same time" ('Journal of Mental Science,' April, 1873). Fifteen cases are reported in the Journal, and in nine the beneficial action of the remedy appeared to be decided. The treatment was found to be most promising in those cases in which the pulse increased in force and slightly in frequency. In a very unpromising case of Melancholia originating in sunstroke, in whom the positive pole was applied to the side of the head over the temporal muscle, and the negative to the inner side of the foot first and then to the hand, the result is stated to have been marvellous. "Each application was followed by decided improvement, so that in a few days he was conscious and able to feed himself; in less than a month the treatment was discontinued. The patient himself fully appreciated the benefit he had received, and warmly expressed his thanks."

Baths.—There are few secondary remedies more useful in the treatment of Insanity than bathing, and there are few that have been more abused, from the time when Van Helmont proposed to drive delirious ideas from the minds of the insane, by bringing them to the verge of dissolution from the body, by submersion, to the present time, when, according to the accounts given by Dr D. H. Tuke and Dr Moreau, some eminent German alienists treat their patients with the utmost severity of the douche, and we can testify that the same system was in operation even at Charenton in 1868. Even Esquirol, who so boldly denounced some of the worst abuses in the treatment of Insanity, made use of the affusion of cold water to an extent which we should at the present day think highly dangerous, but to which he attributed the cure of several of his patients. Thus, in the case of M. L., 'Maladies Mentales,' p. 206, of his second volume, he speaks of the affusion of cold water having

produced a shivering, which lasted the whole day, followed, however, by tranquillity, and on repetition, resulting in a cure. In the case of F. M., a young lady of delicate constitution, and nervous temperament, recorded at page 209, he says that the affusion of cold water was continued fifteen minutes, "after which a shivering came on, her jaws chattered violently, her limbs were unable to support the weight of her body, and the pulse was small, slow, and contracted; she was put to bed, and slept almost immediately. The sleep lasted four hours, during which an abundant sweat came on; on awaking reason had returned, and there has not since been a moment of delirium." He concludes, "The douche on the head has a sedative physical action on account of the cold, and a moral action as a means of repression. The generality of convalescents declare that they have experienced benefit from it, and some patients ask for it, but, *il ne faut pas en abuser.*"

There is no need to cite lower authorities than this great and humane physician to prove the extent to which douches were used, before their danger was recognised. Like all powerful remedies they are capable of abuse, and in the hands of either ignorant or unfeeling persons, there is no doubt that they have often been greatly abused.

To prevent such occurrences, the regulations which have been issued by the Commissioners in Lunacy are, on the whole, judiciously conceived. To be of practical use, some limit must of course be fixed, beyond which the duration of a bath must be considered exceptional, and a shower-bath of three minutes is doubtless quite long enough for all purposes of medical treatment; indeed, with delicate persons, and in cold weather, a bath of that duration would be dangerously long. As a means of repressing the state of febrile excitement, with heat of head, and emotional erethism, which is common among the chronic insane, a bath of three minutes' duration is more than sufficient. As a means of reducing cerebral hyperæmia, in acute cases of Insanity, it would probably be very inadequate; but in such cases the shower-bath appears to us an inconvenient and altogether objectionable method of applying cold to the head, since it drives the blood from the surface of the body at large, and thus tends to the congestion of the internal organs, and especially of the heart, a congestion unfavorable to the return of blood from the brain. In such cases far more benefit is to be derived by the application of cold to the head

alone, and not to the general surface. The medical use of the shower-bath is now almost confined to its tonic action in irritably nervous and hysterical patients, and in some Melancholic patients. The benefit to be derived from its habitual use in hysteria is well known. Among the insane of both sexes are a considerable number of persons whose nervous irritability and susceptibility are identical with that which prevails in the hysteric diathesis; in such persons the daily use of the shower-bath, living in the open air, a well-regulated diet, healthy mental occupation, and the authority of a strong will to check irregularities of conduct, form a system which alike braces the physical and the moral nature, and often results in the happiest change of disposition.

In Melancholia, a daily shower-bath is sometimes useful, even in cases where the strength of the system seems scarcely able to bear the shock. It should be of short duration—namely, from fifteen to thirty seconds; the patient should be dried while standing in a pan of hot water; but if the bath is followed by shivering, or even a feeling of chilliness, it should be discontinued.

The use of the warm bath, either alone or in combination with cold to the head, is a most important remedy in the therapeutics of mental disease. The simple warm bath allays irritation and promotes sleep. Judging from the small effects resulting from a warm bath in other diseases, its tranquillising effect in Insanity is often wonderful. It frequently produces sleep when all other means fail. We have at the present time a young man under treatment, with gay and mischievous Mania; he is habitually sleepless. Morphia and opiates are not well borne by him; they cause sickness and increase irritability. The tincture of hyoscyamus, in half-ounce doses at night, is borne well, and allays excitement; but if given without a warm bath, little or no sleep results; if given with a warm bath, eight or nine hours of sound sleep are obtained. In recent half-acute cases of Mania, with irritability and partial sleeplessness, a course of three or four warm baths at night, with some simple aperient in the morning, often changes the whole aspect of affairs, and leaves nothing to be done to complete a cure, but the employment of physical and mental regimen for a few weeks or months.

The same is true, though to a less extent, in some cases of Melancholia. In general, those cases of Melancholia are most

benefited by warm bathing in which the various secretions seem out of order; in which the skin is harsh and dry, and often sallow, the tongue is loaded, the pulse soft and slow, and the disease has not been of long duration; while those are most benefited by cold bathing or cold sponging, in which there is most nervous irritability, a tendency to hysterical weeping, or to hypochondriacal notions, in which the skin is healthy, and the pulse more rapid than is usual, with a fair degree of force. The warm bath we usually prescribe is one of thirty minutes in duration, and ninty-five degrees of temperature.

The warm bath combined with cold affusion to the head is a remedy much used and highly commended by the eminent French alienist, M. Brierre de Boismont; he advises that it should be used for ten, twelve, or even fifteen hours—the patient being retained in the bath during the whole of the time, if possible by persuasion, but if not, by force. The temperature is kept between twenty-five and thirty degrees Centigrade; cold effusions to the scalp being applied at intervals, and continued for ten or fifteen minutes at a time. Cold affusions and irrigations are inseparable from the employment of these prolonged warm baths. M. Brierre de Boismont generally gives them in the form of an arrosoir falling from the height of a man; they maintain the coolness of the head, and diminish its congestion; they serve also to prevent that sanguineous afflux which the warmth of the bath might occasion; they are administered many times during the continuance of the bath. It is not uncommon to observe patients cease from crying and become calm as the shower of water falls upon their head. Some of them cry that that does them good. "Of all the remedies," he says, "most strongly recommended against the acute forms of Insanity, we know of none which are able to sustain a comparison with prolonged baths and continued irrigations."

M. Brierre employs this bath in a *baignoir de force,* with a covering of wood adapted to enclose the neck of the patient. We have tried the plan; but it appeared so far dangerous, from the efforts of the patient to release himself, that it was soon discontinued. We have found the most convenient plan is to place the patient in a reclining chair, which fits into a warm bath of large size, and affords a good support for the head, which can then be held in the proper place by the hands of an attendant.*

* The Combined Bath was originally a design of Pinel. After describing the

The effects produced by the combined bath are so great that the length of time it is prescribed by M. Brierre de Boismont is to us unaccountable. We have known patients faint after the use of the warm bath, with a cold shower on the scalp, of no great force, continued for less than an hour. Once only we have used it for two hours; and an experience of some years has convinced us that it is a most important and valuable remedy, but one by no means free from danger, and the use of which, for any period approaching ten, twelve, or fifteen hours, would be fraught with peril. (See 'Jr. of Ment. Sci.,' Oct., 1878.)

We have known a single application, for one hour, of the warm bath with cold to the head, effect the best part of a cure in a maniacal patient; and in many instances of recent mania, with hot head, full pulse, and violent delirium, we have known the symptoms take a favorable turn from the first application of this powerful remedy. But we have known one patient affected with syncope, and die on removal from the bath after being in it only twenty minutes: and in several cases we have observed so decided a tendency to syncope, that we have been convinced that it is not safe practice, in all cases, to repel the blood from an hyperæmic brain in the sudden and decided manner which the combined bath places at the disposal of the physician. Urgent cases, of course, need energetic measures; but in the majority of cases of mania with cerebral hyperæmia, a warm bath at ninety-two or ninety-six degrees, with pledgets of wet linen constantly renewed to the shaven scalp, or kept cool by a small shower of cold water poured from time to time from the rose of a small common watering-pot, and used after leeches to the temples, is sufficiently energetic and successful, and far safer, we think, than the practice recommended by the eminent author above quoted. In the words of the great French authority, Pinel. "*il ne faut brusquer rien.*"

The Turkish or Hot-air Bath was first used and advocated by

general use of baths, which for eight years had been employed at the Salpêtrière as "the fundamental basis of treatment for maniacs and melancholiacs; in proportion as their importance became more and more manifest, their employment was varied and seconded by other means; twelve bath-rooms being in activity during a great part of the day," he proceeds: "A happy combination of the douche with the bath adds much to its efficacy, and obviates even the smallest inconvenience which might arise. At each bath, immediately above the head of the patient, is a tube, which, by means of a tap, lets fall from a height of three feet a thread of cold water, proportioned to the end in view, and graduated to the symptoms, but generally very small, and limited to a simple sprinkling [arrosement]."

Dr Lockhart Robertson and by Dr Power, of Cork, in the treatment of Insanity. During the last year of our residence in the Devon Asylum we constructed a large and commodious Turkish bath for the use of the patients. Our experience of its value as a therapeutic agent was not very favorable. If used frequently it appeared to us to be depressing, and if used only occasionally the benefit derived appeared to be but transitory. It certainly was beneficial in its action upon several cases of Melancholia, with harsh dry skin, and of Dementia, in which the skin and tissues were pale and flabby, the heart's action weak, and the functions of secondary nutrition inactive.

We are inclined to think that the Turkish bath is more calculated to improve the health of chronic and incurable patients than to act remedially on those whose malady is recent and curable, or at most that its rôle will be to supplement methods of treatment which are capable of being applied more constantly. There are few patients for whom we should like to prescribe this form of bath so frequently as twice a week, and if used once a week or less frequently it becomes a luxurious and wholesome habit rather than a remedy.

The Wet Sheet or Wet Pack was also first used by Dr Lockhart Robertson with much benefit in cases of sthenic mania. It acts as an energetic sudorific, and may undoubtedly be of service, though it is open to the possibility of abuse as an indirect means of mechanical restraint. This caution, which was given in our second edition, appears to have been justified by the subsequent order of the Commissioners in Lunacy that the use of the *wet pack* should be recorded as an instance of the employment of mechanical restraint. We observe that this order has been protested against as an undue interference with medical treatment, but surely it is in every way justified, for the wet pack is mechanical restraint of the most stringent character, and the Commissioners must know that it has been used not merely with the intention of exciting the action of the glands of the skin, but also with the indirect purpose of restraining muscular activity. We have never used it upon a lunatic because, having tried it upon our own person, we found the sense of muscular restraint so painful that we thought this objection would counterbalance any advantages it might possess over the warm or the Turkish bath. Still, if its use tranquillises and benefits violent maniacs, the physician is clearly justified in prescribing it, and the Commissioners are equally

justified in requiring that its use should be recorded as restraint in obedience to the statutory law on the subject. Restraint is avowedly admissible and necessary for medical as for surgical purposes. We tie a patient into a chair before we use the stomach-pump, and ought to record the fact or we break the law; and the Commissioners do not prejudge the inadmissibility of restraint, even for moral purposes, in all cases. Dr Blandford, writing of acute Melancholia, says "Suicide is their one end and aim; and at the suggestion of the Commissioners of Lunacy themselves I have employed mechanical restraint at night for such reasons as I have stated" (op. cit., p. 211).

Forced Alimentation.—Much has been written and much diversity of practice has existed on this subject. Dr Harrington Tuke read an important paper on it to the Medico-Psychological Association in 1857, and Dr Duckworth Williams published another in the 51st number of the 'Journal of Mental Science.' Dr Harrington Tuke advocates feeding with a nasal tube not more than sixteen inches long and about the size of a No. 6 catheter. We have in practice found it more difficult to pass the nasal than the œsophageal tube, and when it becomes a question of passing a tube at all we prefer the old method of passing a large one through the mouth. If any of our readers should doubt this, let them try the nasal tube and they may succeed better than we have done. Fortunately these passages to the stomach leave a choice, and they differ in different people. With small nostrils and an aquiline nose the nasal passage may be difficult. A complete set of strong teeth firmly clenched may not be easy to open. When a few teeth have been lost by natural decay there can be little difficulty in getting food through its natural passage. To pass a tube through the mouth the patient should be seated in a strong chair, in which, if he resists, he should be held by means of sheets wrapped round the body of the patient and the back of the chair and held by attendants. The jaws are then opened if necessary by means of an expanding wedge worked by a screw to admit the wooden gag with its orifice for the tube being inserted between the teeth. The patient's head being held back the tube is passed and the food injected either with a brass syringe or an india-rubber bag, or allowed to gravitate from a funnel held above the head. We have never known any harm done to an insane patient by the use of the stomach-pump, although instances are on record of fatal injury to the coats of the

stomach when the instrument has been used to remove poison. Of the latter kind we remember an instance during our studentship at the University College Hospital. A man was treated under the supposition that he had swallowed half an ounce of arsenic and he died. It turned out, however, that the chemist had supplied him with sulphate of lime instead of arsenic, and that the operator in washing the gypsum out of the stomach had sucked the mucous membrane into the holes of the tube and with fatal consequences. But in forcible alimentation this danger is not incurred, since the operation consists in injection only.

One great advantage of the large œsophageal tube is that all manner of aliments can be passed through it. No longer are we restricted to wine and brandy, egg and beef tea; we may and ought to supply not only the nitrogenous and carbonaceous foods, ground meat and meal, but also pulped vegetables as antiscorbutics, and a man might be made fat in this way like a crammed turkey, or like McNaughton, whom Dr Wood has told about refusing food until his physician fed him up with the stomach-pump, and until agent and patient laughed at each other across the syringe at the robustness and obesity of the man who would not eat. But after all either the regular stomach-pump, or the nasal tube, or any modifications of these injecting instruments are only of very rare and occasional value in the treatment of the insane. The refusal of food is only too common, but the instances in which any desired quantity of food cannot be introduced into the stomach by swallowing are very rare. In the Devon Asylum for every patient fed through a tube there were at least twenty who were fed without or against their will by spoons, pap-boats, and various devices for introducing food into the mouth, from whence it was swallowed. With skilful and patient attendants under the immediate direction of the physician food may be introduced into the mouth of an insane patient by various instruments. Dr Sankey prefers a wooden spoon; Dr D. Williams two iron ones, one to depress the tongue and the other to give the food. We were in the habit of using for mindless patients a pap-boat with an air-tube controlled by the thumb so that the food could only flow when the thumb was removed. For patients who resisted we used a large medicine spoon with an air-tight lid, and also a thumb-tube. It contained two ounces for two acts of deglutition, one fluid ounce being about as much as a patient can be expected

to swallow at once. By persuasion, a little force, and much patience, the lip of this spoon can almost always be introduced within the mouth, and if the teeth are deficient on one side there can be no difficulty ; and thus patients were habitually fed in our asylum in a manner more or less forced and with such success that injection through a tube had not to be resorted to for years in an institution containing nearly 700 patients and admitting new patients at the rate of 150 in the year.

One great advantage of this unformidable mode of feeding is that it is likely to be adopted at a sufficiently early date. When the apparatus of the stomach-pump, either through nose or mouth, is to be used, and of course used only by the professional attendant, its use is apt to be delayed until the patient has suffered so much from inanition that his downward course cannot be arrested. Our strongest advice is that however you decide to feed, feed early. In cases of acute delirium you must begin to feed almost from the first outbreak of the disease, for it is a question between feeding and living. The only cases in which we advise delay are those in which there may be reason to suspect that the refusal of food is dependent upon a foul state of the primæ viæ. In these cases, indicated by fetid breath, creamy tongue, and disordered evacuations, endeavour by aperients, by enemata, and by alteratives, to act on the hepatic and alvine secretions to bring about a more favorable condition for the digestion of food. After this has been done, its ingestion will frequently be wonderfully facilitated.

The decision as to the time when forcible feeding has become needful will depend, not only upon the degree of inanition, but upon the balance which exists between the degenerative exhaustion and the alimentative repair of the tissues. In acute delirium the exhaustion is rapid; in lunatics with delusions causing refusal of food it is often as slow as it would be in healthy people. The latter may safely be allowed to feel some of the pangs of hunger before food is pumped into their stomachs. Oftentimes they will not refuse to drink although they will refuse to eat, and if weak broths, milk, and other nutritive drinks be supplied to them, they will sometimes outlive the delusion without loss of health or strength. In the majority of cases, however, the golden rule is to feed early and to feed abundantly.

Nutritive enemata are of not much use, so little, indeed, that they may well be dispensed with if the introduction of food into

the stomach be possible. As an auxiliary resource we can recommend that the whole body should be well rubbed all over twice a day with oil. We have known this resource of great service where inanition was threatened from constant vomiting.

There are some remote causes of Insanity from which so large a number of cases appear to take their rise, that whether they impress a definite character or not upon the disease which follows, the treatment of the mental disease, caused by or associated with them, deserve separate consideration. Whether these cases constitute definite kinds of disease, and are, therefore, fit groups for classification according to the doctrine of J. S. Mill, or whether they present to us the typical forms which Whewell recognises as the characteristic of a natural class, we need not discuss in this place. Sufficient is it that in these groups of cases a certain antecedent or accompaniment impresses a character upon the disease which does materially influence treatment.

Epilepsy, either causing or only accompanying Insanity, is, perhaps, the most important. Epileptic Insanity has been described in earlier pages, its intermissions, its accessions of blind and dangerous fury, its tendency towards dementia, and the hopelessness of real cure. In treatment there are several special points to be considered. As a very general rule the epileptic insane, although they ought to be well nourished, should be debarred from the use of all stimulants, even so mild a dietetic stimulant as the table beer, which is beneficial to chronic lunatics, ought to be denied to them. When their accession of excitement comes on, moral treatment is absolutely useless. Precaution against mischief is nearly all that can be done in this direction. Dr Clouston first pointed out that a deep sleep produced by chloral will frequently avert the maniacal paroxysm if it is produced when the symptoms of excitement are first perceived. Bromide of potassium, however, is the great remedy, and this undoubtedly in many instances arrests the epilepsy, and thus saves whatever remainder of mind may have been left by the disease. We have seen nitrate of silver and sulphate of zinc apparently cure Epileptic Insanity, but the disease always returned. These and many other remedies will, at least, suspend or ameliorate Epileptic Insanity, if only for a time, but it is to be hoped that the effects of the bromide will prove permanent; they have in many cases done so, and the continued use of the drug does not often appear to cause other injurious effects than

the disfiguring acne which it so often occasions. We have been informed, however, by physicians of large asylum experience, that they have been induced to discontinue the use of the bromide in many cases on account of the tendency to which it gives rise to the formation of troublesome suppurating inflammations and sores in the slightest abrasion or injury to the skin.

At the Devon Asylum we tried Marshall Hall's remedy for epilepsy, namely, tracheotomy, and have somewhere in the 'Lancet' recorded our experience. Marshall Hall maintained that the *grand mal* was occasioned by spasm of the glottis, producing temporary suffocation and coma from undecarbonised blood. And in one instance, at least, we fondly thought that we had established the truth of his theory. A robust young woman, subject to severe epilepsy and maniacal excitement following the attack, wore a silver tube in her trachea for many months, we think it was for more than a year, and during this time the fits became exceedingly slight and were followed by no mental excitement, but, alas! the end of it was that a great accession of epilepsy took place, fit succeeding fit, in what has been called the *status epilepticus*, and we had to watch her as she died comatose with the tracheal tube in position. She was suffocated by spasm of the pectoral muscles of respiration and of the diaphragm, although the tracheal opening into the lungs was absolutely free.

As a protection to the heads and faces of epileptics in their falls we invented the stuffed ring cap, 'Asylum Journal,' No. 1, and as some safeguard against suffocation in bed by the epileptic turning over in a fit, and thus impeding his already embarrassed respiration, we also invented the ventilating pillow of hair covered with strainer cloth. In asylums these appliances are not without their use, but the best protection to an epileptic is a wakeful companion or a good night watch.

Whether *Hysterical Insanity* is a frequent type form is somewhat doubtful. The vast number of women who are hysterical through the whole of middle life without displaying the slightest tendency to become insane appears to be an adverse fact which it is difficult to explain away. But if from hereditary predisposition or other causes an hysterical woman does become insane, the general neurosis imparts a very special character to the mental disease. The vesania, indeed, seems to grow out of the neurosis. Unlike the epileptics these patients are especi-

ally amenable to moral treatment. They must be brought under the influence of a firm will, their fancies and follies must be resisted, they must be subjected to a just and methodical rule, and their tendencies to lying, deceit, and immodesty must be steadily suppressed. They must have good food, abundant exercise in the open air, and a morning shower-bath, and such enjoyment as lunatics derive from balls, concerts, theatrical representations, must be permitted to them with prudent limitation. Drugs are sometimes useful, as valerian and the fœtid gums, but moral treatment and the tonic regimen are the main things indicated.

Onanism is a frequent accompaniment of Insanity and sometimes causes it, not so frequently, however, as the late Dr Copland maintained, who thought it was the most prolific of all the sources of mental disease. It is a vice of town populations, and there is comparatively little of it in the country. However, when carried to great excess, it stamps a peculiar character upon the lunatic. The treatment is to prevent the habit if possible, but no means have yet been devised by which this can be done. Blistering the prepuce we have found useful, but only for a time. Dr Yellowlees rings the prepuce with silver wire, as the snouts of swine are wired to prevent their routing. The plan is ingenious and has been to a certain degree successful. In females even clitoridectomy has failed. A tonic regimen, including plenty of open-air work, and combined with chalybeates and other tonic medicines, will do something to keep up the strength and make the patient sleep at night long enough to abridge the time which he can devote to self-abuse, and such a patient ought to be allowed to be in bed only during the hours which are required for needful sleep. No doubt the habit might be stopped, at least in men, if the measures resorted to for the purpose were remorselessly stringent. A constant attendant by day with mechanical restraint by night, with bedclothes raised upon a cradle, would surely leave the miserable being no opportunity for the fatal indulgence of his wretched pleasures. But he would, no doubt, return to them as soon as the restrictions were intermitted, and life under their perpetual continuance would not be worth prolonging or preserving at such cost.

Bromide of potassium given freely and continuously takes away sexual desire and competence, but it produces great weakness and emaciation, and cannot be continued for any

length of time; therefore it is only a temporising remedy, and, as far as we know, there is no permanent one. We have used Faradisation to the spine with benefit, but this also was temporary. If it could be supposed that any great mind likely to be of use to the human race was in danger of being destroyed and lost through this habit, the question might fairly arise whether an effectual operation was justifiable; but those miserable helots of sensation who are the usual victims of the despicable vice are not worth the responsibility even of such a thought.

Syphilitic Insanity is not a common form, and the secondary and tertiary forms of syphilis may and do often coexist with nervous forms of mental disease without any pathological connection as cause and effect. The destructive tertiary effects of syphilis may implicate cranium, dura mater, and even portions of the brain, without causing mental disease, and Insanity is certainly not a frequent occurrence in Lock hospitals.

When, however, there is good reason to believe from the history of the case and from the symptoms that the mental disorder has been caused by the syphilitic cachexia, or even when the latter is present only as a pathological contemporary, the treatment must be anti-syphilitic rather than psychiatric, for it is not probable that Insanity can be cured in a patient suffering from any cachexia, much less from so pervading and noxious a one as that of syphilis.

The first point to determine is whether the syphilitic condition present is secondary or tertiary. If secondary, as indicated by the presence of affections of the skin and the mucous membranes, or by iritis, or pains in the muscles, joints, and bones, by periostitis and nodes, a condition in which the venereal poison still exists and may be transmitted, then mercury is beneficial and iodine is of but little or no service.

If the pathological conditions present are those which indicate tertiary syphilis, in which the venereal poison no longer exists in a form which can be transmitted to others, a state of cachexia, which is indicated by inflammations of the fibrous membranes, by caries, and necrosis of bone, by rupia and sloughing ulcers of the skin and other soft parts, by deposits of imperfectly organised fibro-plastic lymph in the areolar tissue of various parts and organs,—in such cases the remedies required are iodine and sarsaparilla, and mercury is injurious.

Mr Lane lays down the above distinction very clearly in a

Lecture which will be found in the 'British Medical Journal' of October 11th, 1873, and the treatment which this excellent authority recommends for the tertiary cachexy is as follows :

"All evacuants, and especially preparations of mercury, all debilitating influences, all wear and tear of the system, such as over-exertion of mind or body in business or pleasure, should be avoided: on the contrary, tonic, stimulant, and restorative measures, combined with good generous diet and judicious hygienic regulations, are the most likely means to prove beneficial. Such, in fact, are the principles upon which the treatment should be conducted whatever theory you may adopt, and whether that which I have advanced be right or wrong.

"It must be confessed that the ordinary tonics, bark, and especially preparations of iron, are not to be depended upon, and must give place to special remedies employed empirically, such as iodine and sarsaparilla.

"In syphilitic cachexia, whatever may be the existing symptoms of the complaint, the treatment consists in the administration of iodide of potassium in from three to ten-grain doses, taken in a third of a pint of the simple or compound decoction of sarsaparilla as a vehicle, alternating with a pill of two grains of quinine and three grains of confection of opium, also taken thrice daily. Exceptional cases may require the iodide to be increased to fifteen or twenty grains, and an additional dose of opium at night will often be found necessary. I have been disappointed, as I have before mentioned, with the preparations of steel or other tonics in these affections. Opium has appeared to me beneficial in two ways—firstly, by soothing pain and allaying irritability; and secondly, by moderating the amount of the several secretions, and thus preventing all unnecessary waste."

All the cases of Insanity complicated with syphilis which we have met with had the tertiary cachexy, and all of them were treated with more or less benefit by the iodide of potassium with tonic regimen ; but, according to the symptoms recorded by the German authors referred to in a former page, mental disease is sometimes the result or the concomitant of the secondary state ; in which case we should prescribe mercury, and especially the bichloride.

In the present state of our knowledge, we think that no physician would be justified in treating any insane patient for Syphilitic Insanity unless the symptoms of syphilitic cachexia were actually present. Without these Syphilitic Insanity is a doubtful type.

We meet with a certain number of cases in lunatic asylums which have the syphilitic cachexia, and we say that these are cases of Syphilitic Insanity, but we ought rather to have gone to Lock hospitals and inquired how cases of syphilitic cachexia become insane. We ought also to make sure that a greater proportion of syphilitic persons do become insane than the ordinary proportion which prevails among persons in bad bodily health suffering at the same time from fear, shame,

and distress. And not only so, but we ought to ascertain that they do become insane in a peculiar manner, with mental and bodily symptoms which are capable of being referred to their bodily disorder, just as cases of Hysterical and Hypochondriacal Insanity are developed by the growth of the symptoms out of those of the preceding disease. This, however, is not always the fact, for we cannot admit that syphilophobia in persons suffering from the cachexia of syphilis is a distinguishing symptom, neither is progressive Dementia one in patients with utterly ruined bodily health.

Puerperal Insanity is a well-defined ætiological class, but it includes most distinct varieties. The treatment, of course, must vary as much as the enormous difference of pathological condition. Cases of Puerperal Mania are now and then met with in which intense cephalalgia, a strong and rapid pulse, a heightened temperature, and a contracted pupil, indicate a condition nearly allied to phrenitis, and in such cases active purgation, leeches to the temples, the ice cap, and sinapisms to the legs and feet, are the treatment indicated.

Another condition of Puerperal Insanity is blood-poisoning, septicæmia, of which there are various sources, the effete elements of the disintegrating uterus, retained alvine evacuations, the elements of the new milk secretion, and, according to Sir James Simpson, the urinary excrements. Of these the reabsorbed uterine materials are by far the most important. In a very large proportion of cases, local precede the mental symptoms, and eight out of ten patients, according to Braxton Hicks, have offensive lochia. The treatment in these cases is antiseptic, eliminative, and anodyne. Vaginal injections, containing Condy's fluid, or other antiseptics, emetics, and purgatives, are the remedies to be first thought of. An emetic of ipecacuanha, then a dose of calomel, followed by the common black draught, are the drugs we prefer; but the compound decoction of aloes, with or without the compound scammony powder, is a most useful drug-form for this purpose, and the action of castor oil and of purgative enemata in removing scybala must not be forgotten. When furred tongue, fœtor of breath, a discoloured conjunctiva, and constipation exist, a dose of calomel, followed by somewhat drastic purgatives, will sometimes produce an enormous discharge of alvine accumulation, followed by almost immediate relief to the head symptoms.

After purgation the saline sudorifics should be given if the

skin is dry and the urine scanty, as so frequently is the case. The acetate of ammonia, with abundance of diluents, should be combined with warm bathing, and if the urine is scanty it should be combined with the nitrate of potass.

Anodynes, however, are the most important remedy after purgation if it be needed, and of these we must confess to the retention of our old preference for the preparations of opium. After the muriate of morphia, the liquor opii sedativus is the preparation we have most frequently prescribed, but the solution of the bimeconate is perhaps still better.

In the sympathetic cases which appear to arise from the physical suffering of parturition or from the nervous irritations incident to women in their most susceptible state, whether produced by physical or mental pain, purgation or other exhausting measures must, of course, be omitted, or only used in such mild degrees as the state of primæ viæ and the secretions seem to demand, and anodynes may safely be combined with stimulants. We have found opium or morphia combined with sulphuric ether the most useful form.

Bromide of potassium and chloral have been recommended in Puerperal Insanity, but we think that the judicious use of opium is preferable after the secretions have been rendered normal by the employment of other remedies. Chloral may possibly cut short an attack if given at an early period, but of this we have no experience. In the anæmic form of Puerperal Insanity, including that of Lactation, the preparations of iron, and especially the old tincture of the sesquichloride, are most useful. This preparation is more stable and far more agreeable than the tincture of the perchloride which has taken its place in the new Pharmacopœia, which deposits a sediment, with a most unpleasant evolution of chlorine when mixed with water. In these cases, also, which are generally melancholic, morphia used in small doses as an antitriptic is frequently highly beneficial.

Great care is needed in this form of mental disease to guard against homicidal or rather infanticidal attempts, for the desire to destroy the infant, either instigated by perverted emotion or by delusion, is exceedingly common. This peculiarity has its strong prototype in the brute creation, especially in some domesticated animals. Suicidal tendency also is very common.

General Paralysis or Paresis.—The therapeutic treatment in this disease may hitherto be said to be *nil*, for it is invariably

fatal. There is no reason, we are aware of, why this should be so, nor why some remedy or combination of remedies may not yet be discovered, with power to arrest or counteract the organic changes which slowly take place in the cord and the brain, and such well-intentioned experiments as Dr Crichton Browne has made with Calabar bean and other drugs may not always be unsuccessful. It is only of late years that the attention of physicians has been prominently directed to the implication in this disease of the spinal cord, and local therapeutics to that organ have scarcely yet been attempted. If the cure of this disease, however, cannot yet be the aim of the physician, its medical management is highly important.

In the early stages the first indication is to keep the patient fairly well nourished, but not highly fed. Early paralytics have a tendency to become full-blooded, a condition which promotes the two most troublesome and injurious incidents of this stage, namely, accessions of maniacal excitement and convulsions.

The early paralytic is more likely to commit theft than murder, but he is very unsafe notwithstanding, and when the temporary excitement, from which he frequently suffers, is intractable by moral means, we have no hesitation in recommending the occasional use of chloral to produce tranquillity, although many good alienists consider that it hastens somewhat the downward progress of this malady. The patient, however, picks up strength again very quickly if he be kept on his legs in the open air; and we have yet to learn that the occasional use of chloral shortens even this condemned life.

The convulsions which occur in most cases of General Paralysis (some say in all, but this we deny) have a more directly injurious effect upon the progress of the case than intercurrent excitement. These convulsions, which more nearly resemble those of teething children or of puerperal women than the convulsions of epilepsy, will be found always to leave behind them a marked bad effect both upon the paralytic condition of the body and the demented condition of the mind. They must be treated without depletion by sinapisms to the legs and feet, enemata of turpentine and castor oil, and cold applications to the head.

In the later stages the patient must have fuller and more stimulating nourishment. Dietetic stimulants may now be safely allowed in considerable quantity. One of the main points, however, is to prevent the patient as long as possible from

becoming a bed-lier. When once this happens, it will be found no easy matter to keep him dry and clean, and to prevent bed-sores or asthenic gangrene. When we first commenced asylum practice, bed-sores in advanced General Paralysis were the general rule; now they are the unfortunate exception. This change is to be attributed to the present practice of keeping such patients out of bed during the day, and keeping them dry during the night. In some cases frightful bed-sores will occur despite of all care, but the condition of our asylum infirmaries, crowded as some of them are with these paralytic patients, is wonderfully different from what we remember thirty-five years ago.

We drew attention to this point in the early pages of the 'Asylum Journal,' vol. i, p. 200, in which we also gave a lithograph of the reclining chair invented by us, out of which it is impossible for a paralytic to tumble. We there state that "it may be taken as a maxim that the longer the patient can be prevented from becoming bed-ridden the longer will he live, and the less miserable will be the remnant of his life to himself and the less obnoxious to those around him. Besides preventing bed-sores, the daily change from the bed to the easy-chair exercises a decidedly beneficial influence upon the bodily and mental condition of the helpless paralytic almost to the very last. It maintains in greater activity the small amount of cerebral function which remains; it aerates the body and postpones the rapid decay and degradation of the functions which take place when permanent continuance in bed at last becomes inevitable."

At the last stage of all, water-beds are a resource, but even they will not prevent bed-sores, for we have seen the pressure of the hand, lying upon the abdomen, and of the knees and ankles pressing each other, produce this nasty complication.

On the treatment of bed-sores see 'Asylum Journal,' vol. i, p. 60. For hardening the skin we found a mixture of equal parts of tincture of kino and Goulard extract, producing a semifluid tannate of lead, the best application. To disinfect the gangrenous parts chlorine washes would now be well replaced by Condy's fluid. To promote the separation of a slough the free application of powdered cinchona bark is most useful.

A distressing accident to which general paralytics are especially liable is either the impaction of a morsel of food in the pharynx, or its passage into the larynx. As we have explained

in the chapter on Pathology, the excitor-motor nerves are disqualified by the spinal disease; most likely they are themselves diseased. The result is, that the constrictor muscles of the pharynx cannot pass the food downwards, or the muscles which ought to close the larynx when food is being swallowed fail to do so, and the morsel passes into the air-tube. We have found both these conditions on examination after death, the impaction in the pharynx being certainly the most frequent. Food in the larynx we have only found twice. When this occurs death is pretty certain to follow, for tracheotomy is not an operation which is capable of being performed in a few seconds. Impaction in the pharynx, however, admits of immediate relief. Pull the tongue forward and pass the finger resolutely into the pharynx and remove the obstructing mass. We instructed attendants in this simple device, and thereby saved many lives; for suffocation is an incident which will not brook delay even for a medical man to come who is resident in the institution.

Hypochondriacal Insanity is undoubtedly a distinct variety of mental disease, for simple hypochondriasis may and does pass by mere increase and exacerbation of symptoms into a state which is proved by the existence of real morbid delusions to be one of mental disease, and this transition from a neurosis to a vesania is often so gradual as to leave no exact boundary mark where the more formidable condition has commenced. The medicinal treatment, however, is that of hypochondriasis, and is quite as unsatisfactory. It is difficult in diagnosis to distinguish this variety from that which has been called Intestinal Insanity, and certainly the treatment has to be directed to the same purposes, namely, to the removal of various forms of indigestion and hepatic and intestinal torpor. Aloetic purgatives combined with fœtid gums are most indicated. Busy occupation in wholesome out-of-door work has often a good effect in keeping at bay the wretched self-regarding delusions. It will be observed that the delusions which are quoted by us from Burton as having been cured by trick and deceit were mostly of this hypochondriacal class.

Résumé.—It will be useful to give a brief *résumé* of the principles upon which the active remedies should be prescribed whose employment in mental disease has been here treated upon.

In the first place, it is a question of the utmost importance to decide when active remedies are needful. In the chronic

stages of Insanity active remedies are rarely admissible, except to obviate some intercurrent condition which produces too much disturbance and danger to be permitted to run a natural course, and wear itself out. In recent Insanity with symptoms of physical disturbance of little violence and urgency, active medicinal treatment may oftentimes be dispensed with. The removal, or the cessation, of the causes of the disease, and the influences of mental and physical regimen, often suffice to place the patient in a condition so favorable to the subsidence of the form of mental disease under which he suffers, that any active medicinal interference is more likely to do harm than good. One of the most important and difficult lessons for a young physician to learn is, to know when to abstain from interference with the laws which regulate the rise, progress, and subsidence of disease; it is a lesson which can only be learned by long experience. As a rule, interference should not be directed against abnormal conditions of the mind, however recent, unless they appear to be dependent upon pathological states of the body which are understood and known to be susceptible of change or removal. Medicinal treatment should not always be employed when the physical functions are obviously deranged: thus, many patients suffer from recent not acute insanity from moral causes, in whom the physical functions are generally but moderately disturbed,—appetite and sleep are impaired, and the nervous system is in a state too excitable or impressionable. In many such cases management without medicine will effect a cure; removal of cause, change of scene, regular hours and diet, occupation without excitement, and tranquillity without dulness, favouring the operation of laws tending to a natural solution in health, without the administration of a single dose of any kind of medicine. On the other hand, recent disease, with symptoms of an acute and violent character, is rarely unattended either by the persisting physical causes of the disease, or by such pathological conditions as do not, if left to themselves, tend to a natural resolution in health. Thus a suppressed secretion or discharge is a persistent cause which requires active interference; the total want of sleep is the sign of a pathological condition becoming in itself a cause of degenerative change, which if left to the laws of disease, tends in many instances to death, and in many others to the continuance of Insanity in an incurable form.

Active medicinal interference, therefore, is most needful in the

acute and violent forms of Mania and Melancholia; its first and main end being frequently the production of sleep; in some cases this is obtained by relieving cerebral hyperæmia; in others, by obviating an irritable condition of the brain, either by the administration of narcotics alone, or in combination with stimulants and nutriment. After the first storm of violence has subsided, and a fair proportion of sleep, with a comparative degree of waking tranquillity has been obtained, medicinal interference may be most usefully directed to the restoration of disordered secretions and physical functions, to the restoration of suppressed catamenia, to regulating the action of the liver and intestines, and to promoting the secreting functions of the skin.

In the early stages of these acute forms, regimenal treatment must be mainly directed to the abstraction of all causes of excitement. The absence of friends who excite emotion; the absence of familiar objects of occupation which excite morbid thought; the absence of noise and conversation; the absence of all stimulants of cerebral activity must be provided for. The range of physical symptoms in these forms of disease is very wide, extending from cases in which there is almost an absence of such symptoms, to those in which there is a close approximation to some forms of cerebral inflammation; therefore no precise rules can be laid down for their regimenal treatment. In many cases, conversation, occupation, and other means for distracting the mind, are most useful; and even the extended and prolonged muscular exercise, which has been so strongly recommended by some physicians as an important means of treatment in all cases of acute Mania—even this may be found, in some cases, to be a most useful means of reducing nervous irritability and procuring sleep. But, in many cases, it would be as rational to compel a patient suffering from acute Mania to take prolonged and extended muscular exercise as it would be to force a patient suffering from meningitis, or a patient in the last stage of nervous excitement from delirium tremens, to do so. In either case, such treatment would probably result in the death of the patient. Common sense and experience alike dictate that in cases of maniacal delirium—of acute Mania approaching in character to cerebral inflammation, the removal of all sources of excitement, and of all influences tending to increase the action of the heart, is indispensable; and that in cases of acute Mania verging in character upon delirium tremens,

and in typhus-like cases, muscular exertion and all sources of exhaustion must be studiously avoided. Doubtless many cases do occur in which a superabundant nervous energy appears to be directed to the muscles, and in which there is no evidence of active hyperæmia of the brain nor of nervous depression. In such cases, "prolonged and extended muscular exercise" produces a tranquillising effect on the mind of value in the treatment. But to prescribe prolonged and extended muscular exercise in all cases of acute Mania is as much opposed to the spirit of rational medicine as it would be to prescribe some one remedy in all states and forms of acute dyspepsia, because in one form of this disease it is occasionally useful.

In the latter stages of curable Insanity, interfering treatment is still often needed to procure sleep, to remove persisting causes of disease—such as suppressed or excessive discharges, to remove foci of nervous irritation—such as an irritable uterus, to correct tendencies to cerebral hyperæmia or irritation by the use of leeches, setons, or counter-irritants, to correct disordered secretions, to correct any abnormal states of the assimilative apparatus, and to invigorate nervous tone.

Regimenal measures are also, in these stages of Mania, to be directed to the same purposes. Regular muscular exercise in the open air now becomes of great therapeutic value. Cold bathing to brace the nervous system, and nutritious diet to promote the regenerative nutrition of the brain, are not less needful. At the same time there is less danger, on the one hand, from excitement influencing unfavorably the cerebral circulation, and from exhaustion, on the other, telling prejudicially upon the worn-out nervous energies. In these stages, occupation and amusement become restorative—promoting the normal action, not only of the mental, but of the purely physical functions, and especially those of assimilation and secretion. In the occupation of gardener or agriculturist, the exhausted Antæus falls upon his mother Earth, and derives renewed vigour from the contact.

No practical distinction can be drawn between the medicinal treatment of Mania and that of Melancholia. In the acute forms, the pathological conditions upon which they depend appear identical, although hyperæmia is more frequent in Mania, anæmia and irritability more frequent in Melancholia. Local depletion and refrigeration, therefore, are more called for in Mania, narcotics and baths in Melancholia. In the latter, also,

the functions of assimilation and secretion are more profoundly disturbed, and their rectification demands more close attention. There appears to us, however, to be no sound foundation for the theory, and the practice hanging upon it, that Mania is the disease of youth, strength, and functional activity, and Melancholia that of age, weakness, and functional depression; for we see Mania with the utmost weakness of the bodily functions and Melancholia with their utmost vigour, and we see Mania change into Melancholia, and the contrary, and that without any obvious change in the general bodily functions. Depressing emotions do, no doubt, depress the bodily functions, and exhilarating ones quicken their activity; but whether at the outbreak of Insanity the emotions shall be expansive or depressed, and whether the delusions shall be of a cheerful or a gloomy character, appears to depend upon the manner in which the brain was organised, nourished, trained and cultured, and not upon the vigour of the heart or the integrity of the abdominal viscera.

In the less acute forms of Melancholia an indication of treatment exists which is not met with in Mania. It is that of removing painful states of feeling through the influence of narcotics. The cœnæsthesis or self-feeling of Crichton, or, as Dr H. Monro has recently termed it, the functional sense, is the frequent cause of the emotional disturbance in the slower forms of Melancholia. Morphia, taken for a long period, influences this state most beneficially, and thus frequently effects a cure of the mental disturbance in a manner which gives the appearance of more direct medication of the mind than in any other form of treatment of mental disease.

When the acute symptoms of recent cases have subsided, the indications of treatment are generally tonic and restorative. With this view, pharmaceutical agencies are of infinitely less importance than regimenal ones. Many cases, however, occur in which quinine dissolved in wine is found useful, and a few in which the mineral acids, or the diffusible alkali with bitters, assist the best directed measures of regimen. The most efficient tonic regimen is derived from exercise in pure country air, to which brightness is added by agreeable out-door occupation and amusement, by the daily use of cold sponging or bathing, by an ample supply of nutritious food, good clothing, bright and well-ventilated apartments, and those general appliances of a well-regulated domicile which promote physical

health and mental cheerfulness. It is at this period that the beneficial influence of the sane upon the insane mind—that is, moral treatment properly so called—is most felt. At this period cod-liver oil is often useful. It is also the time for the successful application of counter-irritants to the scalp, in those cases where physical health is restored, while the loss of mental power threatens the hopeless passage into dementia. In other cases, where cephalalgia, with heat of head, with angry irritability and tendency to violent excitement, continues for a long period, after the subsidence of the acute symptoms, and threatens the transition into chronic mania, mercurials given to touch the gums, intermitted for six or eight weeks, and again given, ought, we think, to be tried. So many cases of this kind have recovered under this treatment, that, notwithstanding the contra-indication of mercurials in Insanity, under the threatening circumstances above described, the patient ought not to be deprived of the chance thus afforded. When successful, the mercurial action probably is so by changing the action in some small portion of the brain-substance, or membranes, in which something closely allied to inflammation has existed, the continuance of which, in some chronic form of hyperæmia, serves as a *foyer* of irritation to the whole organ. Sometimes, in these cases, a large quantity of mercury may be taken, without affecting the gums, or in any way appearing to influence the system; in such cases, if the strength of the patient will bear it, a seton may be placed in the nape; this promotes the influence of the mercury, and has often appeared to ensure its success. The influence of the mercury should be slow and sustained. Five grains of Plummer's pill twice a day is a good form under which to obtain it. The eighth or tenth of a grain of the bichloride, however, given two or three times a day, is to be preferred when the secretions are in a satisfactory state.

In primary or acute Dementia the indications of therapeutical treatment are often slight, or altogether absent. Sometimes the signs of gastric disturbance exist; there is little appetite, and the tongue is pale and coated, or red and dry. In such cases, remedies judiciously addressed to the state of the stomach often do good. In some cases, where there appears to be a debilitated, flabby condition of the mucous membrane, small doses of balsam copaibæ, diffused in bitter infusion, often do good. In irritable conditions of the gastric mucous membrane,

the usual remedies must be given. When the catamenia have been suppressed, remedies must be directed to their restoration; and of all remedies for this purpose which have been employed by us none will bear comparison with the electro-galvanic current passed through the pelvis for the space of half an hour daily. The mere sensations produced by this remedy also are not without their use in primary Dementia. A strong physical sensation often rouses the attention, and sets afoot the other faculties of the mind; and it is probably on this principle that blisters to the nape do good in this form of Dementia, rather than by any physical influence they exert. A bracing tonic regimen, and especially the influence of pure air, good food, and cold bathing, are useful in this form of mental disease, which, in practice, is found to be far more curable than appearances would lead the inexperienced to suppose.

Another point on which we must say a parting word is that tendency to employ single remedies only, with the purpose of observing more accurately their effects. This method is, without doubt, scientific and of great value, but as a matter of treatment it is open to objection. Before we can properly combine and use medicines therapeutically, we must know what they are worth by themselves, and the investigations of Dr Crichton Browne on ergot, Calabar bean and nitrate of amyl, and of Dr Clouston on bromide of potassium, and of Dr Robertson on digitalis, are worthy of all honour. But that single medicines do not possess the power of curing disease like skilfully combined ones is a fact which none of the great physicians even of our own time can be cited to contradict, and among the older physicians the skill of combination was carried to a high art. The one-drug investigations of the present day have no relation except that of contrast with such teaching as that which is contained in Paris's 'Pharmacologia,' and thus it is well to remember that in dealing with complicated states, like that of many concrete cases of Insanity in which sometimes several diseases are coexistent, the pharmaceutical skill of the prescribing physician is often far more successful than the stricter method of the investigator. The question, what is this drug worth? is different to that other question, how shall I cure this patient? and both are right in the right place. The patients in our institutions supported by public funds may fairly be required to forego some margin of their advantages for the sake of a great public benefit which the precise determination

of a drug's value undoubtedly is. But the physician in the usual practise of his art must, like Saint Paul, be all things to all men, that by any means he may save some; he must vary and change and combine the powers he employs, so that when the patient is cured he may often be unable to say which drug or part of his treatment has had the most curative effect.

APPENDICES

No. 1.

CASES ILLUSTRATED BY THE PORTRAITS IN THE FRONTISPIECE.

Acute Mania.

M. D., No. 1198.—The portait of this patient, which is the upper portrait in the frontispiece, affords an excellent representation of the acute form of Mania. There is much emotional and intellectual disturbance, with comparatively little derangement of the physical health. The patient, who is now thirty years of age, has been a remarkably handsome woman, and indeed still possesses the traces of eminent beauty, although distorted by passion and suffering. Her Insanity was brought on by want and distress, which she endured after the birth of an illegitimate child. When brought to the asylum she was emaciated and anæmic, the pulse was feeble, the heart dilated, with irritable and excessive action; the functions of the uterus were normal; under the use of fifteen grains of compound iron pill, twice a day, at the end of three months she recovered, and was discharged. Returning to her home, she met with renewed distress, and suffered a relapse. She believes that she is tormented by witches, and that she is compelled by them to make noises resembling dogs and cats, the crowing of cocks, &c.; she believes that an old woman is shut up in her belly, which she beats violently with the purpose of killing the intruder; she sometimes destroys crockery and glass, and attempts to get up the chimney, although there is a fire in the grate; says she is cut to pieces, and that all the people around her are murderers; she strikes, without warning, straightforward blows at the faces of those who converse with her. The physical functions are regular, and the sleep good. The ferocious expression caught in the photograph passes into one of ungovernable fury, the face becoming almost purple, the veins of the head and neck turgid and swollen, and the saliva hanging on the lips like foam. In less than half an hour, if spoken to kindly and soothingly, she becomes tranquil. Tonic treatment has been indicated in this case; but, at present, good food and occupation are the only remedies likely to be of use.

Monomania of Pride.

E. N., No. 976.—The central portrait of the frontispiece is that of a female, aged 38, the daughter of an officer in the Customs. The cause of her illness is not known, but it appears to have been of long standing. Six years before her admission, she met some soldiers, who, she said, attempted to create a disturbance, and who appear to have frightened her. For some years before her admission, she was in the habit of coming from Devonport to Exeter, whenever the assizes were held at the latter place, in order that she might obtain her rights as Her Majesty's Person. On these occasions, a benevolent magistrate, to whom she had made herself known, used to send her to her home. At last, on one of these occasions, she was thought decidedly unsafe, and was sent to the asylum. Her delusion is that she is Her Majesty's Person—she is not Her Majesty, but Her Person—a distinction on which she lays great stress, but which we have never been able to understand. She is proud, and dignified in her demeanour. Out of the commonest materials of dress she contrives to make a distinguished appearance. She fastens the skirt of her dress low, so as to form a sort of train; and, with arms folded, the head with its coronal ornaments thrown proudly back, she would, if permitted, maintain an erect and regal position from morning to night. As she has a dilated and irritable heart it would be dangerous to permit her to indulge this fancy; and hence arise some differences of opinion between her and those who have the care of her health. The intense pride expressed in the turn of the head and eye, and in the firm compressed lips, cannot be mistaken. It is the physiognomy of one exaggerated emotion, transmuted into one delusive idea.

Congenital Imbecility.

S. J., No. 1471.—The portrait of this youth, the lowest in the frontispiece, represents the vacant, expressionless stare of imbecility. The patient, aged twenty-seven, is the son of a weak-minded father; he has always been of weak mind, but is said to have become much worse since a blow on the head; this, however, is doubtful. When first admitted, he was dirty in his habits, restless and mischievous; a little attention has rendered him cleanly, quiet, and docile. His intellectual power is very low. His head, which has some resemblance to that of a horse, has the macrocephalous shape. The dimensions are as follows:—Height of person, 5 ft. 11 in.; circumference of head, 1 ft. 11 in.; from junction of nasal bones with frontal, to the occipital protuberance, 1 ft. 3 in.; to nape of neck, 1 ft. 4½ in.; from ear to ear, over vertex, 1 ft. 3 in.; from meatus of ear to ear, round chin, 2 ft. 3½ in. The expression of physiognomy is very characteristic of intellectual feebleness; the brow and eye indicate the effort of attention different to the tranquillity of hebetude, which is so characteristically depicted in the portrait of primary Dementia. But the effort of attention is not seconded by any power of comprehension; the expression is that of intense stupidity.

General Paralysis.

J. D., No. 1623.—The upper side portrait to the left hand (of the spectator) represents a man, aged forty-eight, the subject of General Paralysis. The cause of his Insanity was not known. He had been insane three months before his admission. He had been destructive of clothing, &c., and had been violent to his wife, attempting to pull her ears off. He said that it was his duty to kill her, and yet that he was always at prayer with her and for her. Although he would kick or scratch any patient who inadvertently touched him, his general condition in the asylum was tranquil, verging gradually to mindlessness. He had, only in a modified degree, the delusions of grandeur so common in this form of Insanity. He used to say that he had a gold watch, and gold chain, and very fine clothes, but they were in pawn. Ten months after admission, he had two consecutive attacks of that form of convulsions between apoplexy and epilepsy which is common in General Paralysis. Soon after emerging from the coma of the second attack, he died in bed in a fainting fit. The body was not examined. The portrait shows the curtain-like face, devoid of all expression, a perfect blank of thought and feeling. The head is well shaped, and the features are handsome; but the amount of intellectual expression is less even than that displayed in the face of the idiot. The brows droop over the orbits, and the eyelids over the eyes. The muscles of the mouth and lips are relaxed, and were the patient to attempt to speak they would twitch and quiver; but even photography cannot represent motion, and the blank void of the features in repose is all that can be shown.

Acute Suicidal Melancholia.

J. B., No. 1680.—The upper portrait on the right hand side (of the spectator) is that of a man, aged fifty-six, with acute Melancholia. A carpenter, of steady habits, insane four months before admission; had been dull and depressed, and could not attend to his trade; refused to take food, because it was too good for him; was restless by day, and sleepless by night; said that he must be burnt or scalded to death: he made frequent efforts to get at the hot-water taps, in order that he might scald himself, and to get to a little duck pond, scarcely a foot deep, that he might drown himself; ran his head once with violence against a wall, to injure or destroy himself. Constantly undressed himself, and required to have clothing which fastened behind with the asylum buckle. He improved under treatment (opiates at night, and leeches to the temples), but having been visited by his wife, three months after admission, he became much worse; said that his wife was a man dressed in woman's clothes, that she had given him poison in a cake; and from that time to his death required to be fed with a feeding spoon. Six months after admission, he suffered a severe attack of epilepsy, which was repeated three times during the following month. He died from exhaustion immediately after the last attack.

Post-mortem examination, sixteen hours after death.—Calvarium thick,

dense, and irregular, in some places thinner than usual; arachnoid opaque and milky; subarachnoid fluid considerable; grey matter of brain paler than usual; the white substance of a brownish-pink hue, most marked in the parts lying over the lateral ventricles; substance of the brain very firm; lateral ventricles normal; soft commissure quite firm; septum lucidum distinct and firm; vessels at base slightly atheromatous; temporal fossæ strongly marked with the impressions of the convolutions. Specific gravity:—White matter 1045, grey matter 1036, cerebellum 1040.

Comments.—Death followed epileptic convulsions, from chronic change in the nutrition of the brain. The fear of death and the urgent desire to commit self-destruction, however incompatible with each other they appear to the sane mind, are frequently coexistant in the insane. This patient was intensely restless, a condition which, like the tremors of General Paralysis, cannot be represented in a portrait. The physiognomical expression is characteristic of anxiety and fear.

Primary Dementia.

S. T., No. 1475.—The lower portrait on the left hand side (of the spectator) represents a case of primary Dementia. The patient, now aged forty, had a severe attack of typhus fever when nineteen years of age, after which, her husband says that "her jaw dropped, and she has never been perfectly right since." This did not prevent her, however, being married to a shoemaker, and bearing five children, the last of whom, six months old, she suckled to the date of her admission, affording an example of one means by which Insanity is propagated. She was admitted in a state of extreme filth and personal neglect, in the same mental state in which she still remains, namely, a void of sensation, emotion, and thought. On her blank physiognomy there are no traces of passion telling of former storms of Mania, there is not even the slight effort of attention which corrugates the brow of the idiot. She never laughs or weeps, or indicates any want or any annoyance. She knows none of the attendants or patients by name; says she was never married; remembers her maiden name, but appears to have forgotten her married name. If she were accidentally hurt, she would feel but little pain; if she were not fed like an infant, she would die of starvation with little suffering. She is very fat, has a good colour in her cheeks, and her physical functions are performed well. The catamenia are suppressed. She seldom moves, feeling no motive to do so. When told to move, she progresses with a short, quick trot, like a young child. She eats ravenously, and would choke herself if her food were not carefully minced. She affords a good example of the extent to which physical health may be retained when the activity of the cerebral functions is reduced to its lowest ebb.

Secondary Dementia.

M. A. Y., No. 1322.—The lower portrait on the right hand side (of the spectator) represents a woman, aged forty-nine, the subject of secondary Dementia. She has been insane two and a half years. The cause was

attributed to religious excitement, and the fear of death from disease of the knee-joint. The form of Insanity which first presented itself was that of acute maniacal excitement, with delusions of a religious type, and suicidal desire. She thought that her soul was separated from her body, and that it was for ever lost. She attempted to strangle herself, and also to beat her brains out by running against walls. After admission, this violence subsided, and she passed into a state of chronic excitement, which, with gradually decreasing mental powers, has continued to the present time. She sleeps badly, and believes that she is visited at night by an old lover, towards whom she uses very bad language, and whose supposed attempts to get into bed she resists vigorously. Although quiet enough during the day, she is often, in consequence of this delusion, very noisy at night. During the day, she holds quiet conversations with this lover, and with persons whom she has known in early life. She not only hears but sees these people, and this hallucination has impressed that earnest inquiring look so faithfully given in the portrait. Her memory of early years is much stronger than that of events which have just passed. She cannot tell our name, or the name of the nurses, or any of her fellow-patients; but she can remember the names and residences of the people who lived in the neighbourhood of her home. She takes her food well; but her attention is so feeble that, without great care, she would lapse into dirty habits. The catamenia are regular. The general expression of the face is that of mindlessness, combined with the deep lines of emotional excitement. From the presence of the latter her physiognomy presents a great contrast with that of the instance of primary Dementia on the opposite side of the Plate. The face also presents a striking instance of that want of harmony between the expression of the different features which is often so characteristic a trait of insane physiognomy. The upper part of the face, viewed alone, might be taken to belong to a person in a state of acute Mania; the lower part, viewed alone, might be mistaken for utter fatuity or idiocy.

SOME CASES ILLUSTRATING TREATMENT.

Mania with violence; disuse of restraint; recovery.—Some years since we were called upon to attend a lady of fortune suffering from violent and destructive Mania. Peculiar circumstances rendered it needful that she should be treated at home. She had been ill about two months. We found her in the charge of a female attendant from one of the London licensed houses, who, as usual, had brought a complete set of restraining apparatus in her trunk. The patient was in her drawing-room, which had been denuded of all furniture, except two old chairs and a sofa without covering. On the carpetless floor, dressed in an old wrapper, without shoes (which had been taken away lest she should kick the nurse, or throw them at the window), sat a lady, with handsome, haggard features, volubly abusing her attendant, a fine, high-spirited young woman, who indicated too much sensibility to the unpleasant epithets poured upon her. On examination, we found our patient to be suffering from what Esquirol called *manie raisonnante*—high mental excitement without delusion, accompanied by violence of conduct

more or less under control. Under the treatment to which she had been subjected, this violence had not been controlled. In addition to bad and abusive language, she frequently attacked the nurse and the servants who assisted her, spat upon them, kicked them, bit them, broke windows, destroyed clothing, and bedding, threw her plate and food against the wall and the windows, and was altogether as violent as she well could be. The treatment to which she was subjected was, the imposition of the strait-waistcoat whenever her violence and insults exceeded the limits of the nurse's endurance. At night the lady was put into the strait-waistcoat, and tied down to the bed, the door of her room was locked, and she was left to herself until morning. She complained bitterly of this treatment, and heaped opprobrious epithets upon her nurse. We substituted for this nurse the services of a woman who was probably her inferior in every natural qualification for a good nurse, but who had never seen a strait-waistcoat applied, and would not have known how to put one on. Compelled to rely on other means than those of forcible repression, this woman exercised towards her charge the soothing influences of never-failing kindness. For a time she underwent as much abuse as her predecessor. But "a soft answer turneth away wrath;" and our mischievous friend soon found it no fun to shoot her arrows of sarcasm and contumely in a direction where they were obviously not felt. The display of violence diminished, *pari passu*, with the war of words. The patient was made comfortable in the condition of her room and of her dress. The second story of her house was devoted solely to her own use, so that in her restless moods she could walk from chamber to chamber. The windows of her bedroom were fitted with convenient shutters, and a second bed arranged in it; so that one or two assistant nurses could sleep or watch, according to the state of the patient at night, who sometimes slept well, and at others was very restless—when she would walk about the room for hours, until in weariness she went to bed, and often slept soundly during the last few hours of the night. In the daytime she took walking exercise in her grounds, and after a while, walks into the country beyond; and in two months from the date of her change of nurses, her state of mind was as good as that which she enjoyed previous to the accession of maniacal symptoms. In this case there was no medical treatment. Morphia was prescribed for the sleeplessness from which the patient had suffered; but the first dose having been followed by headache and feverishness, it was discontinued, and no other treatment was adopted. The very marked change for the better which took place in her condition was attributed solely to the change in the moral influences to which she was subjected. When the case approached convalescence, the nurse who had been so successful was replaced by an educated lady, who gave her valuable services as the companion of the patient; an arrangement which proved in every way satisfactory. It may here be remarked, that the person best adapted to conduct a case, during its more demonstrative period, is often by no means well suited to do so during its first or prodromic, and its third or convalescing stages. It is not that persons of educated mind will not submit to the indignities and annoyances incurred during attendance upon cases of active Insanity; motives of affection, of bene-

volence, or of gain, may overcome such repugnance; but it is that the educated and sensitive mind appears practically ill adapted to come into contact with the turbulent emotions and indiscriminating perceptions of the acutely insane. But during the period before Insanity is developed, and during that before convalescence, when its manifestations become less gross, the finer tact and perceptions of an educated person will frequently prove of the utmost service in the moral guidance of the patient. The above is an example of the tranquillising and curative effect of that demeanour which a nurse is compelled, by the non-restraint system, to adopt, and doubtless results from the operation of that law of our nature which may be called *emotional imitation*. This law, which explains the easily moved enthusiasm of crowds, and the causeless panic of armies, is one of the most powerful agents in the moral treatment of the insane. By the force of this law, a susceptible and ill-trained attendant allows herself to be placed in emotional *rapport* with an angry patient; a well-trained and good-humoured attendant, on the contrary, places the patient in emotional *rapport* with herself. It is a fruitful theme, of which our limits scarcely permit us to state the thesis.

Sthenic Mania; recovery under the use of Tartrate of Antimony.—A. C., No. 564.—Wife of a husbandman, aged thirty-four. A month before admission she had a serious quarrel with her husband about the sale of some apples; from that time has been excitable; has taken knives threatening to injure others and herself; has a delusion that she is a wheelbarrow. Has good-humoured and manageable excitement, but talks bitterly of her husband's ill-usage; is occasionally irritable and passionate. *Bodily condition.*—Appearance healthy, head cool, appetite good, bowels confined; pulse firm, not quick; sleep uncertain. *Treatment.*—Aperients, Antim. P. Tart. gr. $\frac{1}{3}$, ter die. The antimonial produced no nausea; the patient slept well, and took food heartily; began to employ herself, and generally improved. After a month, and at the time of the catamenial period, high maniacal excitement came on, with passionate violence; she was always jumping and racing about, pushing and striking every one she passed; talking incoherently; for three nights sleepless, out of bed, and noisy. Liq. Opii Sed. ℥xl, o. n. The excitement subsided in about a fortnight; she gradually improved in temper, and became cheerful and industrious. During the next two months her delusion disappeared; but she maintained that she had not been out of her mind. In the next month she changed her mind on this point, and was discharged cured six months after admission.

Acute Mania subsiding into quiet Melancholia; recovery.—J. N. G., No. 555.—An engineer; a clever, industrious man, of steady habits. Three months before admission experienced a severe disappointment, in not getting an order for a certain steam engine which he had calculated upon; he became excited and irritable in manner, neglected his work, and acute Mania gradually came on. *Mental state.*—Extreme excitement; believes that he is going to be shot; asks every one why he is not killed; and begs

of them to kill him; shouting all night long; tears his clothes, destroys his bedding, scribbles on the walls and doors; jumps at the gas pipes, and attempts to pull them down; very destructive and violent; wets and dirties his bed; miscalls persons, fancying he has seen every one before; no power of fixing his attention. *Bodily condition.*—Expression pale, wild, haggard; skin clammy; extremities cold, head cool; loosing flesh; pulse small and quick; bowels constipated. *Treatment.*—Æther. Sulph., Tinct. Opii, ana ℥xl, ex aqua, 6tis horis; purgatives on alternate mornings. Under this treatment he gained sleep, took food, and improved greatly; still remained occasionally violent, dirty in his habits, quarrelsome and abusive, muttering to himself, and swearing. After five months—has improved considerably; has been employed in the engine house, but requires careful watching, as he is listless, abstracted, and low-spirited. Ether and opium now omitted. Under the influence of agreeable occupation this state gradually wore off during the three following months, and he was discharged recovered, seven months from the time of his admission.

Mania from debility; recovery under the use of quinine and good food.—J. B., No. 1731.—A young man, aged twenty, of no occupation. His mother is insane; he has had feeble health for many years.—*Mental state.*—Maniacal excitement and restlessness, accompanied by delusions that he has the best breed of black horses in the world—that he is the strongest man in the world, and can throw the best wrestler in Devon or Cornwall. Violent—attempting to bite and kick, and mischievous. *Bodily health.*—An exceedingly small, frail little person, with rachitic curvature of the spine, so great that his back is like the letter D. Body very emaciated and anæmic. Pulse very small and rapid; head cool; tongue clean; sleep none for four nights. *Treatment.*—Morph. Mur. gr. ½, h. s. omni nocte; Quinæ Disulph. gr. ii, Vin. Rub. ʒj, ter die. After some days, cod-liver oil was substituted; but the oil produced sickness, and the quinine and wine were again resorted to, and continued, to a week before his discharge. Extra diet, with strong beef tea and new milk. The patient gradually gained flesh, and acquired strength, and his mental condition improved *pari passu.* He was discharged recovered, three months from admission.

Mania with limited delusions; Opiate treatment.—W. C., No. 551.—A master carpenter, in good circumstances, of steady and domestic habits, said to have suffered chagrin from want of children by his marriage. Six months before admission, symptoms of Insanity first showed themselves in a sudden fancy he took to join the Odd Fellows' Society, about which he constantly talked in an excited manner, saying, that all who were not Odd Fellows would be ruined; he took a violent antipathy to his wife, whom he accused of infidelity and of attempts to poison him; has been violent to his wife; followed his brother on the railway, to warn him of spirits which he had seen on the platform; refused food, saying it was poison. *Mental state.*—Is very morose, obstinate, and dissatisfied; angry at his

confinement, but most angry at his wife, whom he says he hears outside his room at night; obstinately refusing medicine, and at times abusive, passionate, and violent. *Bodily condition.*—Head over-warm, with frontal pain; tongue white; urine healthy, acid; pulse quick, weak; sleep disturbed. *Treatment.*—Blister to nape; Pil. Hydrarg., with aperients; occasional shower baths; Tr. Opii ℥j, o. n. After six weeks Ol. Tiglii ad caput tonsum; after two months Æther. S., Tr. Opii, ana ℥ss, ex aqua, ter die; repeat Ol. Tiglii ad caput. The patient made no progress for two months from admission. After that time the opiate treatment then adopted appeared to soothe the irritability of his system, and after the third and fourth months he improved rapidly; he was discharged cured in December, 1848, and has remained perfectly well ever since.

Suicidal Melancholia, changing to Mania; treatment of Cerebral Hyperæmia.—G. N., No. 588.—A gentlewoman, aged fifty. Has been a most active, intelligent woman, exemplary in all the social relations, and ruling a large family with much judgment and force of character. Supposed cause of Insanity, the climacteric period. Insane three months. *Mental state.*—Much distress, full of gloomy forebodings, distressed about pecuniary matters, wondering how things are to be paid for, thinks all her family are ruined, &c.; hears noises, which sometimes she wonders at and cannot understand; at others she recognises them for the voices of her children, and then holds conversations with them; has great weariness of life; begs to be hanged or otherwise destroyed, and makes constant efforts to commit self-destruction; watches every opportunity to secrete articles to tie round her neck, and grasps her throat with her hands until she becomes black in the face; when baffled in this, thrusts articles down her throat. All night a special attendant lies on a bed close to her, and the utmost vigilence is needed to prevent the accomplishment of her purpose. *Bodily condition.*—Strong frame, sallow complexion, dense black hair, yellow conjunctiva; forehead cool, vertex over-warm; complains of a sense of fulness and oppression in the head; fixed melancholy expression; good sized square-shaped head; tongue clean, bowels torpid, functions of the uterus suppressed, pulse sharp, rather strong, 136; sleep variable, generally bad. *Treatment.*—Ext. Aloës gr. vj; Pil. Hydrarg. gr. iij, o. m. Lotio evap. ad caput tonsum. Hiruds. vj post aures—after ten days, Calomel gr. vj, P. Jalapæ gr. xij.—Ung. Hydrarg. ℥ss in axil. infric.—the system brought slightly under the influence of mercury. In third month no material change, the sleep somewhat better, pulse varying from 100 to 120, sharp, and not easily compressible; the urine loaded with lithates. She has a constant habit of picking her fingers, producing sores at the roots of the nails; makes constant attempts at self-destruction. Still much heat of the vertex, which is aggravated, together with all the other symptoms, if the bowels are not kept freely evacuated. The treatment was free evacuation of the bowels by means of calomel and jalap, Seidlitz powders, and croton oil in pills. Six leeches were frequently applied to the temples, once, twice, or three times a week. Warm baths every other night, and muriate of morphia gr. ½ every night. After five

months there is a decided improvement; sometimes talks rationally and cheerfully, but has paroxysms of depression, alternating with excitement; still very suicidal; thinks that her daughters are concealed in the house; has become inclined to passionate excitement, to strike people and destroy her clothes; sleeps tolerably; the pulse has fallen to between 80 and 90, and is soft and compressible; is always worse when the bowels are freely evacuated, the head becomes hot, and the pulse rises. After seven months, improvement continued; more tranquil, and can be left more by herself without fear of suicide; still thinks her daughters are in the house, and that every stranger she sees is one of them; works at her needle; has frontal headache; eye restless, suspicious, and angry; appetite and sleep good. After six months she completely lost her suicidal tendency, and her melancholy gave place to a continued angry excitement; very obstinate, and impatient of interference; full of complaints at being kept from home; it often requires several nurses to administer her medicine; sleep somewhat good, sometimes she walks her bed-room all night. *Treatment.*—Warm baths. Antim. P. Tart. gr. $\frac{2}{3}$, ter die. The antimony produces no nauseating or debilitating effects, the appetite indeed remains good under its use, and the patient gains flesh. She retains her angry, wilful bearing, with strong personal antipathies; while her sarcastic remarks and shrewd observation of the weak points in the character of those with whom she comes into contact, show that the intellectual faculties retain their full vigour. Improved in the eleventh month, but in the twelfth she became more angry, passionate, and obstinate; says her family are locked up here; the countenance flushed, the head hot, the bowels sluggish notwithstanding aperients; the pulse varying from 100 to 120; no suicidal tendency; sleep fair. *Treatment.*—Calomel, gr. j, ter die. Magnes. Sulph., P. Jalapæ, p. r. n., occasionally Ol. Ricini ℥ij, and to avoid resistance to medicine Jalapine gr. v in food. The calomel continued twenty-eight days did not affect the gums. During the twelfth month great fluctuations—sometimes angry, railing at every one, and at others conversing rationally and courteously. During the thirteenth month improvement continued; talks rationally of her prospects of returning home, and of the different members of her family, whom she now never speaks of as being in the building; has a clear healthy expression, and fuller face; the pulse remains near 100; active aperients still needed; Ol. Ricini ℥j, or calomel and jalap, h. s. Sulph. Magnes. ℥vj, mane. From this time she slowly but steadily improves; entirely loses all delusions, and angry irritable state of temper, enjoys quiet society and amusements; warmly expresses gratitude for attentions paid her, and fears she has given great trouble. Sleep and appetite very good; has a pleasant, cheerful expression of countenance; the eye, however, is flashing and restless, the pulse continues above 90, and the bowels require daily doses of castor oil. She returned to her home perfectly recovered eighteen months from the time she came under our care. Since that time, now ten years ago, she has been the active mistress of a large household; and, although she has suffered grief in the loss of children, she has not shown the slightest indication of a relapse. The termination of this case, in which the symptoms were so severe and prolonged, in a manner so

completely satisfactory, must we think be attributed to the energetic employment of medicinal remedies.

Suicidal Mania with Chorea relieved by opiate treatment.—S. S., No. 1595.—A boy, aged twelve, all his lifetime affected to some extent with chorea. No cause of Insanity known. Had an attack of Mania two years since. A few days before admission made an attempt to hang himself, but was cut down; the rope has left a distinct mark round the neck. Was admitted in a state of acute Mania; with propensity to violence and self-destruction. He attempted to dash his head against the walls; and being placed in the padded room, he lay on the floor crying, "Oh, do kill me! Dash my brains out; Oh, do let me die!" He kicked and bit at the legs and hands of the attendants who had to feed him. He twisted a stocking round his throat, with intent to suffocate himself; and on its being removed, he thrust it down his throat with the same intent. Head very hot, pulse quick, tongue red; refused food; no sleep. *Treatment.*—Warm bath, with cold arrosoir to head for half an hour. Morph. Mur. gr. $\frac{1}{2}$ stat., and repeated every three hours; castor oil. After four days, four leeches to temples. Morph. Mur. gr. $\frac{1}{2}$ twice a day. Under these remedies the suicidal Mania ceased. The morphia was continued twice a day for some weeks, with the effects of procuring good sleep, with quiet mental state during the day, improved appetite and physical strength. This patient recovered, with the exception of the chorea (upon which various remedies, nitrate of silver, oxide of zinc, &c., have had no effect) and a most passionate temper.

Mania relieved by preventing Onanism.—J. B., No. 1710.—A carver and gilder, aged twenty-three, unmarried. Not hereditary, but the father was an habitual drunkard; one of his brothers is a patient in the asylum, and another died epileptic. No cause assignable except father's drunkenness. Second attack. Insane eight days before admission. *Mental state.*—Violent in conduct; using abusive, blasphemous, and obscene language; has many delusions, the leading ones being—that he is a great personage, that an immense sum of money has been stolen from him, and that he shall be Mayor of Plymouth, &c.; power of fixing attention lost. *Bodily condition.*—Head hot, conjunctiva suffused, pale face, muscular movements violent, pulse fast, and full, bowels constipated. *Treatment.*—Evaporating lotion to shaved head; ten leeches to temples; castor oil. Six days after—Calomel gr. x. P. Jalap. gr. xv. After a month, Tr. Hyoscyami, Mist. Camph., ana $\frac{3}{3}\frac{1}{2}$, omni nocte. A warm bath with cold arrosoir to head, for half an hour every other night. After two months (the head having become cool) the violence subsided, and symptoms of imbecility appeared—croton oil rubbed on the shaven scalp; Extr. Aloës gr. xv, omni mane. After four months—Extr. Aloës, reduced to gr. v. The patient appeared likely to pass into a state of Dementia. He was discovered to be greatly addicted to Onanism; to prevent this, Acetum Lyttæ was applied under the prepuce, with success. He gave up the habit, and from this date gradually improved. He is now convalescent, but cannot sleep without the nightly dose of hyoscyamus.

The improvement of the bodily and mental condition, after the habit of self-abuse was prevented, was very marked.

Mania; recovery under emmenagogue treatment.—A. C., No. 1641.—A passionate excitable girl, aged eighteen; her father, brother, father's brother, and mother's brother all insane. Two months before admission the catamenia became irregular, and mania supervened. She was exceedingly violent, running round and round rooms and airing courts; talking all day and night to persons whom she fancied she saw around her. This active state subsided in about two months from admission; she became excessively passionate and indolent, would lie on a bench or couch all day long, and, if disturbed, was violent and abusive. Under treatment she improved, was moved into a quiet ward, and employed herself a little. The catamenia remained suppressed until the application of galvanism, seven months after admission; this brought on the catamenia, and complete mental restoration followed within a few weeks. The treatment was—warm baths, aperients, muriate of morphia, gr. ½ h. s. After a month—Pil. Ferri c. gr. xv. ter die, used for three months without benefit; afterwards leeches to the groin without effect. After a month the electro-galvanic current was passed across the pelvis for half an hour daily; it succeeded in two months. It was used for a few days before the monthly period for two months longer. She was discharged recovered eight months after admission.

Mania; recovery on the removal of profuse Leucorrhœa.—M. A., No. 1707.—The wife of a butler, aged thirty-seven. A year ago was deserted by her husband; since then she has endured great distress, and is said to have been intemperate and dissolute. Insane six months. *Mental state.*—Abusive and violent, breaks glass, very irritable; fancies every one is her enemy; restless, with feeble power of attention. *Bodily condition.*—Pale and emaciated, with very anxious expression; pulse natural, tongue pale, sleep bad, appetite uncertain, functions of uterus irregular, profuse leucorrhœa. *Treatment.*—After some days, Decoct. Cort. Querci ℥ij, Aluminis ʒiv. Ft. Injectio per vaginam nocte maneque. This succeeded in stopping the leucorrhœa. After three weeks—Quinine gr. ii, Acid. Sulph. dil. ♏xv. ter die. Under this treatment she recovered, and was discharged in good health, three months after admission.

Mania inclining to Dementia from the irritation of a foreign body in the Vagina.—J. W., No. 560.—A laundress, aged sixty-one; stated to have been insane four months. Has made many attempts to destroy herself. Is wild and restless, pulling off her clothes, tearing her hair; says she is the Queen of Heaven. Is very violent, swearing, and incoherent. Pulse small and quick, head and skin perspiring and not hot; desire for food voracious; sleep broken. Antim. P. Tart. gr. ½ was given three times a day for four days. The patient rapidly improved, became tranquil and industrious. A month after admission she had a febrile attack, with severe lumbar pain. This recurred five times, producing great languor and debility, and causing her to keep her bed. Various means of treatment

—warm baths, alteratives and aperients, blisters, &c., &c.—were adopted without effect. The patient became very weak, with flying pains all over the body; and at length she could not for a long time leave her bed, and her life seemed in imminent danger. Five months from her admission, a disagreeable purulent smell was observed about her; and on seeking for the cause, an offensive vaginal discharge was observed, which she had doubtless taken measures to conceal. We desired the assistant medical officer to examine the vagina with the speculum. This he did in opposition to the strenuous efforts of the patient, and reported to us the existence of extensive malignant disease. The cervix and part of the body of the uterus were found occupied by a large, ragged, foul ulceration; the parts around of a greenish-black colour; and the whole covered with a most offensive discharge. Having ordered the use of chlorinated injections, after some days we used the speculum ourselves; the patient again resisting most vigorously, and requiring to be held in position by nurses. We found a large ragged ulceration of the cervix uteri and the upper end of the vagina, lying across which a great piece of wood appeared. This we easily removed with the finger, and found to consist of a child's toy *wooden trumpet*. When the first examination had taken place, this thing had been concealed by granulation and discharge. The patient, of course, strenuously denied having introduced it; and it certainly is singular that, at her age, she should have resorted to such a method of self-abuse. After the removal of the irritating cause the vaginal discharges ceased, and the patient began to improve; but her bodily health had been so broken down that it took several months to restore it. She was discharged recovered twelve months after admission.

Mania with resemblance to Delirium Tremens.—A farmer, single, aged thirty-three. Not hereditary. A professed wrestler. For the last two months has been attending wrestling matches in various parts of the country, maintaining himself upon the prize-money which he obtained. Came to his brother's from a wrestling match in Cornwall; was very excited and apprehensive of danger; was tied down to a bedstead, which he tore up and used as a ram to burst open the door and force out the window frame. *Mental state.*—Greatly agitated; says that men, spirits, and demons are pursuing him, and attempting to kill and poison him; that demons in the shape of little terrier dogs are eating his flesh; he tries to tear them off, and with his powerful grasp he inflicts bruises upon himself in so doing; he fancies his medicine is poison, and resists taking it. *Bodily condition.*—Head cool and free from pain; skin warm and clammy; tongue broad, furred; bowels open; evacuations dark and copious; urine normal; pulse 92, weak; sleep broken; no muscular tremors. *Treatment.*—Calomel gr. vj, stat.; Haust. Aloës cras mane; Æther. ʒj, Tr. Opii, ɱxxv, ter die. After two days, Tr. Opii ʒj e cyatho cerevisiæ ter die. After ten days the patient was free from delusion, and fast gaining a natural healthy state. Was discharged recovered one month from admission.

Acute Melancholia from moral causes; no improvement under treatment.—

M. P., No. 1691.—A farmer's daughter, aged forty-four. Not hereditary. *History.*—Had for several years been living in habits of adultery with a married man. The man's wife was in ill-health, and when she died he promised to marry M. P. When the wife did die, the sister of M. P. endeavoured to obtain this man for her husband, causing much jealousy, and the man eventually refused to marry either. Soon afterwards the patient became depressed, and attempted to hang herself. When admitted was greatly depressed; says her body and soul are lost, that she shall be burned alive, that she sees hell flames, that she cannot be cured, and wishes she was dead; constantly moans and shouts aloud, and strikes other patients. *Physical symptoms.*—Head hot, pulse quick and feeble, sleep disturbed, catamenia scanty. *Treatment.*—Tr. Opii, ℥xxx, Æther. Sulph. ℥xx, horis 3tiis, continued three months with some improvement. Warm baths for thirty minutes at ninety degrees, with arrosoir of cold water on shaven scalp; this treatment procured much better sleep. After three months, the health of body having improved, but the head being hot and the eyes suffused, leeches were occasionally applied to the temples. Want of sleep, with great distress of mind, continuing, five grains of crude opium were given three times a day, with good effect for the time, but it begun to cause sickness, and the head again being hot it was discontinued. The baths were recommenced, and she was cupped to six ounces from the nape, four times, at intervals of a week. This caused relief, and the patient has slept better and been more tranquil. She has a new delusion that her brain is too large, and that it is bursting through the skull; no loss of power of attention or memory. Still under treatment; prognosis unfavorable.

Quiet Melancholia cured by Opium with Æther.—W. F., No. 1427.—Married; a fishmonger, aged fifty. Not hereditary. Insane two months before admission. Cause, a dispute with the Town Commissioners of Improvement respecting some thatched houses which she refused to slate, and which, as they were considered dangerous, the Commissioners seized and slated. *Mental state.*—Refused to answer questions; constantly said she must die—she had no money, and must starve. Frequently wept; walked about, wringing her hands day and night; could not be kept in bed. Before admission had attempted suicide several times, and thrusting articles down her throat. *Bodily condition.*—Head hot, extremities cold; tongue covered with a brown fur, bowels constipated; refused food; pulse quick and feeble. *Treatment.*—Calomel gr. v, Pulv. Jalapæ gr. xv, stat. Four days after admission—Tr. Opii ℥xl, Æther. Sulph. ℥xxx, ter die. Under the influence of this medicine she improved rapidly, sleep and appetite improved, and the constipation ceased. In seven days her delusions disappeared, and she became cheerful and active. Was discharged cured one month from admission.

Melancholia with Hallucinations; recovery without medicinal treatment.—M. N., No. 1729.—An artisan's wife, aged forty-eight; of steady industrious habits. Not hereditary. Second attack. Supposed cause, the

excessive drinking of strong tea. *Mental state.*—All things appear of a red colour. She sees most frightful animals and spirits, of a blood-red colour, which she knows are not real, but which make her wretched, and prevent sleep. Before admission, she attempted suicide by hanging. *Bodily condition.*—Head hottish, extremities cold; generally relaxed, ill-fed and nervous. No *medicinal treatment* was adopted. Under the influence of a regular mode of living, with cheerful occupations, she recovered in three months from admission.

Melancholia without Delusion, from distress; recovery from good food.—W. P., No. 1684.—An agricultural labourer. Not hereditary. A year before admission had erysipelas, which was followed by ill health and incapacity to work. He had to support himself, a wife, and three children upon four shillings and sixpence a week derived from a sick club. He said he had been half starved, and that this alone was the cause of his mental depression, of which he was fully conscious. *Mental state.*—Extreme apathy; he would sit in one position all day long, took no notice of anything passing around him; had no delusion, but great depression of spirits. He was very feeble and emaciated, and had cough from chronic pleurisy. For this, Hydrarg. Bichl. gr. 1-10th ter die was ordered, with benefit; and under the influence of good food he gradually recovered, and was discharged four months after admission.

Melancholia from chagrin; recovery without medicinal treatment.—V. W., No. 1687.—A gentleman's bailiff, aged fifty-five; the father died insane. This patient had borne through life an excellent character, and had been ostentatiously attentive to his public religious duties. Twelve months ago he married a young woman, and six months afterwards was blessed with offspring. This premature event brought upon him the jeers of those who saw in it a contradiction of his professions of sanctity. He gradually became depressed, said he had ruined his master, whose property he had wasted; that his sins were many, and could never be forgiven; that he must die, and go to hell and the sooner the better. Had a heavy, dejected appearance, and dulness of attention. Head and skin hot and moist; sleep moderately good. This patient had no medicinal treatment. He was employed at first in the garden, and subsequently in shooting excursions, in which he was of much use, being an excellent sportsman. He slowly and gradually improved, and was discharged six months after admission, and has remained well since.

Mania from remorse; recovery without medicinal treatment.—N. N., No. 1660.—Had been for many years the trusted attendant upon an insane lady. Upon the death of this person her friends settled upon N. N. a handsome annuity, for her faithful services. She gradually became melancholic, as she said from remorse at not having done her duty to her late charge, whom she had permitted to be ill used and placed in severe mechanical restraint by the medical man in whose house she resided as a single patient. She said that her soul was lost for ever, that there was no

hope for her, that her sins were mountains high; was most anxious to resign her annuity. She was dull and listless and emaciated; but her bodily functions were normal. No medicinal treatment was adopted; she was made to occupy herself. For six months she did not improve; she then improved rapidly, and was discharged recovered nine months from admission.

Mania from grief; recovery under opiate treatment.—M. D., No. 1672.—A master chimney-sweep, of industrious and steady habits, gaining two or three pounds a week by his trade. His wife ran away with another man twelve months before his admission. After this he became intemperate, and changed in character. Had been maniacal six weeks before admission. Was very violent, restless, and noisy; said he saw Christ bodily, that he had a mission to convert the world; used blasphemous and disgusting language. Head hot, pulse quick and weak, body emaciated; no sleep. *Treatment.*—Warm bath, with cold to head, thirty minutes; Morph. Mur. gr. ½ ter die; this drug was continued six months; attempts were made to diminish the quantity, but with bad effects. After three months he gained strength and flesh, the head became more heated, the conduct quarrelsome and violent. A pill, containing half a minim of croton oil, ordered every second day. This produced hypercatharsis, followed by great improvement in the bodily state; the appetite also improved. This continued under the occasional use of Ext. Aloës gr. x. The patient was discharged recovered six months after admission.

Mania from grief; opiate treatment.—A. W., No. 1658.—A married woman, aged fifty-seven, of quiet, domestic habits, and naturally cheerful temper. Became insane immediately after the death of a son and the seduction of a daughter, both of which events occurred about the same time. Said she was under the terrible power of witches, who whispered into her ear that her family were to be burned. She believed all her family to be dead, even though she saw them about her. Said their letters were forged. Obscene in her conduct; said the female patients were men. She was highly suicidal, and attempted to injure herself by throwing herself with violence on the ground, causing bruises on the head and face. Head hot, extremities cold, pulse natural, tongue red and glazed, sleep lost. *Treatment.*—Castor oil; blue pill and aloes; Morph. Mur. gr. ½, every night, continued for three months without improvement. At this time she became very restless, the conduct violent and obscene, the delusions fixed. Ordered—croton oil to be rubbed on the shaven scalp, and a grain of muriate of morphia to be taken three times a day. This was followed by the happiest results; in the course of a few weeks she gave up her delusions, but remained depressed for some time. Was discharged cured six months after admission.

Dementia following brain fever; recovery under tonics and moral treatment.—E. T., No. 1654.—A mantua-maker, aged twenty-two. One uncle committed suicide, another was insane. Four months before admission had

brain-fever; afterwards her mind was observed to be quite weak; she was foolish, irritable, and frequently wept and laughed without cause. She was exceedingly mischievous, destroying windows and clothing without apparent motive. She was quite inattentive to the calls of nature, and had consequently to be treated in the idiot ward. No power of attention or memory. Appearance quite idiotic; the saliva running from her mouth. Body anæmic and emaciated, temperature low; appetite fair; sleep good; catamenia suppressed. *Treatment.*—Pil. Ferri co. gr. x, ter die; Oleum Jecoris Aselli ℥ss, ter die. Great physical improvement; mental condition remaining much the same. After a month, croton oil rubbed on the shaven scalp, followed by marked improvement in the mental state. This was followed up by diligent moral treatment. One of the nurses employed her, danced and sang with her, and made her a constant companion. Under this treatment she gradually recovered the full power of her mind, and was discharged recovered nine months after admission.

Acute Dementia from Suppressio Mensium.—H. M., No. 1467.—A single woman, aged nineteen. Twelve months before admission she caught a bad cold during the catamenial flow, which was arrested. In her present state for five weeks; can scarcely be made to speak or move; when urged she says—"I shan't! d—n you, get out!" Resists medicine violently; requires to be fed; is exceedingly filthy, eating her own fæces so as to produce frequent sickness; pulse natural; bowels much confined; tongue white; sleeps heavily. *Treatment.*—A drop of croton oil in half a drachm of olive oil placed in the mouth every other day. After the resistance of medicine was overcome—Decoc. Aloës c. ℥j, o. m.; six leeches to the groins, with warm hip baths, once a month. After two months, some improvement; begins to feed herself. After five months, begins to work a little in the ward, and to discontinue her filthy propensities. After seven months, the catamenia reappeared, and a marked change immediately followed; she became talkative, lively and high-spirited, according to the bent of her disposition; she was, however, docile and industrious. From our fearing a relapse, she was not discharged cured until three months later.

Acute Mania, becoming chronic under treatment.—A. P., No. 1222.—A cook, well educated; four years ago had a blow on the head, from a fall. For two years had betrayed oddity of manner, and her memory had failed; still she "kept company" with a footman living in service in the same house with her. Her lover destroyed himself; after which, the rector of the parish talked to her religiously, and prevailed upon her to receive the sacrament. Since that time she has believed herself in hell, and that Mr A., the vicar, is the only person that can get her out; she escaped from her friends, got into his house, and broke his conservatory windows. Brought to the asylum, she was violent to the attendants and patients, destructive of clothing and glass; libidinous in expression and conversation, and given to masturbation; the head hot; otherwise strong, and in good health; functions of uterus regular. *Treatment.*—Daily shower-baths, blisters over the ovaries, occupation in the laundry; under this the delusions and

symptoms of nymphomania subsided, and the patient became tranquil and manageable; the memory remains impaired, the temper irritable, and the conduct prone to violence, under any excitement. Probably some mischief has resulted from the physical cause, which remains after the maniacal excitement, which followed the moral cause, has disappeared.

SOME CASES ILLUSTRATING CAUSATION AND PATHOLOGY.

Monomania, with Religious Exaltation, of long standing; death from Perforating Ulcer of the Intestines.—A. V., No. 579.—A farmer's daughter, unmarried, aged fifty-three. Has been considered insane many years, and previously confined in four asylums. On Sunday went into the market-place of N——, and attempted to preach, thus creating a disturbance. A week before her admission she smashed the windows of a tradesman who had once been concerned in placing her in an asylum. After her admission the mental state was that of religious enthusiasm, with a haughty, dictatorial temper; she frequently preached—or, as she said, lectured, to the inmates, in a loud, pertinacious manner. She insisted vehemently on her perfect sanity, and vowed legal vengeance on all concerned in her detention; obstinately refused employment, but, with the exception of the loud preaching, was quiet and obedient to rules. Her intellectual powers, displayed in language and argument, were considerable; she had no delusion. *Bodily condition.*—Sleep sound, pulse good, head and skin cool; all the functions regular; catamenia naturally suppressed. She remained in this state two years and a half, including a period of about nine months, during which she resided with her brother, a farmer living in the neighbourhood. She subsequently looked ill, and was ordered to bed; but she refused to acknowledge that she had anything the matter with her. She had a slight swelling of the wrists, and a trifling cough, and was thought to have a rheumatic cold. After three days the expression suddenly became pinched and anxious; the pulse small, 120; the tongue white, and the abdomen tender to touch. Turpentine fomentations to the abdomen, and grain doses of calomel every four hours, were ordered; after twelve hours she became rather suddenly weaker, and died. *Post-mortem examination.*—Circumference of cranium 1 ft. 8½ in.; weight of brain 3 lbs. ½ oz. av.; capacity of brain for water 50½ oz.; breadth of grey matter ·08 of an inch; sp. gr. of cerebrum 1·041, of cerebellum 1·044; the dura mater was adherent to the cranium; the choroid plexus contained many cysts; the substance of the brain was natural in colour and consistence; there was rather more subarachnoid fluid than was natural; the arteries at the base of the brain were slightly atheromatous. Death had been caused by a perforating ulcer of the small intestines, near their lower end; the other organs of the body were healthy.

The case affords an example of the slight deviations from the normal state which take place in cases of Emotional Monomania, or Moral Insanity, which arise from exaggeration of the natural disposition. This patient was only some degrees removed from those offensive preaching

women one occasionally meets with in society. Probably marriage and the cares of a family would have saved her from an asylum. What, in this country, can a single woman do, with an energetic brain weighing more than three pounds, but get into some trouble or other?

Acute Nymphomania, with suicidal Impulse.—J. M., aged thirty, a dressmaker. Three years before, had an attack of Mania from which she recovered, and had been well ever since. She was a Roman Catholic pervert from the Protestant religion, and the causes of her first attack had to do with her change of faith. For her second attack no cause could be assigned. Without any previous symptoms of Insanity she went into the parish church of A—— during Divine service, threw herself prostrate upon the pavement, and made a scene. On being removed, she was found to be "raving mad." A strait-waistcoat was placed under her, to prevent self-destruction; but, after this, she bit off the end of her tongue, and attempted to bite off her lower lip, but only succeeded in lacerating it fearfully. She dashed herself against a wall, and bruised herself so, that, when admitted into the asylum on the following Wednesdey, her disfigured face scarcely appeared human. She was bruised from head to foot, and her right ankle was abraded from ligatures. She was sensible and did not appear to be suffering from any delusion; but she made repeated efforts to beat her head against a wall, and said she must kill herself. She refused food. The head was very hot. The catamenia were flowing on her admission. She was ordered a warm bath for an hour, with cold arrosoir on the shaven scalp. She tried to drown herself in the bath, by keeping her head under water. The bath had an excellent effect, and was followed by sleep. It was followed up by a drachm of black drop, night and morning, and by a dozen leeches to the temples, which were repeated three times. She was never left, as she seized every opportunity to suffocate or strangle herself. In the course of five or six days the symptoms abated greatly, and in nine days from her admission her mental health appeared to be perfectly restored. Her features were still greatly disfigured, but she occupied herself with needlework, spoke reasonably and gratefully, and was in her perfect right mind. Five weeks after her admission, and at the period when the catamenia again appeared, she suffered a sudden relapse; she made a violent and indecent attack upon a woman whom she believed to be a man. Her head became hot, her face flushed; her eyelids drooped—the eye being turned upwards; the carotids pulsated strongly, although the general pulse was weak. The same remedies which afforded relief before were tried in vain, and for five days she attempted to injure herself in every possible way, by thrusting her hand down her throat, by beating her head against the wall or the floor, and by attempting to drown herself in the bath. Several nurses were with her night and day, and upon them she made constant attacks of an indecent nature. She moaned and exclaimed, "Oh my God! Oh, blessed Jesus! Oh save me!" and evidently suffered great mental anguish. The large doses of opium which were administered had not the slightest soporific effect, and during the whole of the attack she never lost consciousness in sleep. Within half an hour

of her death she was conscious of the visit of the Catholic priest, and appeared to understand the last sacrament which he administered. But so long as she was able to lift her hand she seemed to be occupied with a firm purpose of self-destruction. Gradually the breathing became slower, and the pulse more feeble; and, at the end of the fifth day of the attack, she died from asthenia.

Post-mortem.—Complexion highly sanguine; body well nourished, and more hirsute than is usual among women. The scalp bloodless. The calvarium very thick, hard and heavy; being sawn off in the usual manner its weight was 19½ oz. Specific gravity:—cerebrum, grey matter 1·038, white matter 1·040, cerebellum 1·042. The dura mater was somewhat adherent. The arachnoid was healthy, but there was a slight quantity of subarachnoid fluid. The pia mater was generally congested, the congestion being greatest over the anterior lobes. The grey matter of the convolutions was paler than usual, but the white matter of the brain had the pink appearance of hyperæmia. In the right middle cerebral fossa the dura mater was covered with a thick straw-coloured adventitious membrane. Over the whole of the base of the skull, the shining surface of the dura mater was of a yellowish colour, and the membrane was easily separable from the bone. The hepatic system was congested. The catamenia were flowing. The hymen was perfect. The uterus and its ligaments, and the ovaries, were greatly congested. The right ovary contained a cyst about the size of a small nut, having inside a yellowish fluid. The left contained a cavity about the size of a large pea—false corpora lutea—lined with a yellowish cartilaginous structure containing a clot of blood. The other organs were healthy.

It is probable that the pathological appearances found at the base of the brain were the result of the previous attack of Mania, which, however, had left no apparent effect in the condition of the patient beyond the very serious one of a tendency to relapse. This poor young woman bore an exemplary moral character, directly at variance with that which might physiologically have been expected from the indications afforded by her conformation and temperament. Vehement mental perturbation appears to have resulted from the struggle between mental purity and the physiological impulses of sex. The acute cerebral hyperæmia was sympathetic with the state of the ovaries, and affords an illustration that the conditions of the brain in sympathetic disturbance are actual and tangible morbid conditions, and not the mere vibrations of an irritation. The pale colour of the grey matter of the convolutions, in contrast with the hyperæmic condition of the white substance, was remarkable. Probably the state of the grey matter did not exist long before death, and was an effect partly of the gradually failing powers of life—partly of the leeches and refrigeratory measures applied to the head. The grey substance of the convolutions appears to pass more readily into and out of a state of hyperæmia than the white substance.

Chronic Mania; death from suicide.—W. R., No. 883.—A shoemaker, aged sixty-one. Seven years before was noticed to be insane, parading the

streets with a knife tied on a pole, and frightening people. Had continued strange ever since, seldom speaking to any one, or answering when spoken to. Requiring parochial relief, he was compelled to take it in the Union House. He became morose and excitable; refused to work in the house, and was twice committed to Bridewell on that account; but for the last two years, when he had refused to work, he had been treated in a summary manner—put under confinement in the house, and kept on bread and water. A week before his admission into the asylum, he obtained a knife and cut his throat; he lost much blood. The wound was sewn up by the Union surgeon, but he twice tore it open, and said he would "tear the eyes of the attendant out, if he did not bring a razor for him to complete the job." *On admission*, extremely emaciated; the cellular tissue emphysematous all over the body, even down to the wrists: the scrotum quite inflated with air. Respiration hurried but the stethoscope cannot be used on account of the crackling of the emphysema over the chest; pulse 120, very feeble; an open wound into the larynx between the cricoid and thyroid cartilages, through which the thumb may be passed; the air respired passes partly through the wound. He lay quietly, without being able to speak; did not interfere with the dressings; took wine eagerly. Wine, brandy and egg, beef-tea, &c., were administered frequently; but he gradually sank, and died, after being in the asylum two clear days. *Post-mortem.*—Cranium thick; dura mater firmly adherent; Pacchionian bodies large, greatly indenting cranium; venous congestion of pia mater; subarachnoid effusion in small quantity. Substance of brain soft and watery: weight 2lb. $11\frac{3}{4}$ oz. Sp. gr. cerebrum 1·039; cerebellum 1·045. Grey matter of convolutions of a muddy-brown colour, the external layer darker than the internal; the tubular neurine also of a muddy colour, with numerous blood points. Heart $5\frac{1}{2}$ oz. Intestines dark in colour, inflated, covered with old false membrane. Cysts in surface of kidneys. The wound in the throat was not interfered with.

Mania with changing delusions; death from Chronic Gastritis.—J. B. W., a letter-carrier, aged forty-eight. Ten days before admission he requested his brother to accompany him in his rounds, as people were waylaying him with the intention of destroying him. Had since been very restless, excited and ungovernable; had suffered much grief from the immoral conduct and death of a daughter. No relatives insane. On admission, great anxiety and restlessness; heard noises of people coming to injure him; head over-warm; tongue furred; pulse quick and weak; sleep fair; muscular movements active and normal. Aperients. Improved greatly during the first month; acknowledged his delusions to be such, and said he had been subject to morbid fancies of plots and an impending evil for two years. After a game at cricket, he began to talk of his old delusions in a nervous excited manner; hot head, flushed face and quick pulse. Antim. P. Tart. gr., $\frac{1}{3}$, ex aquâ—ter die. This medecine not well borne, and omitted after four days. The delusions of fear gradually changed to others of pride; said he had £365,000 a-year, was a knight of the realm, constantly bowing and kneeling to Her Majesty. Bal. Pluv. o. m. C.C. ad

℥vj nuchæ. After a week, Baln. cal. c. affus. frigid. capiti. pr. horæ dim. o. n. Afterwards head cool, free from pain; pulse quick, of fair tone; quiet at night, but wakeful. Warm baths omitted after a week; morning shower-baths ordered, and omitted after a fortnight. After two months, acquired a new leading delusion, that a certain mesmerising surgeon had gained complete power over his body and soul, and that he was going to hell; gloomy and anxious, losing flesh, appetite indifferent. Sp. Ammon. Co. Sp., Ætheris C., ana ℥ss. Inf. Gent, c. ℥j, ter die. After two months wished to be killed; but would not attempt his own life, if Dr B. would cut off his head when the Queen sent her permission; often refused food saying it was poisoned, and needed to be fed; still lost flesh and became emaciated; tongue thin with a red tip; alvine evacuations formed, of a pale clay colour, scanty; complexion clear; pulse quick and feeble; sleep fair; no abdominal pain. Ol. Jecoris Aselli; Hydr. c. Creta, gr. v. o. n.; Baln. Cal. 96°, alternis noctibus. Eggs and new milk diet. Strong ale and wine. For two months longer he gradually declined in health, the delusions remaining the same. Took nourishment better, but enjoyed beer and wine most. Ten months from admission became gradually weaker, lost his voice, did not recognise his relatives, became drowsy, and died without a struggle. *Post-mortem.*—Body greatly emaciated; calvarium thick; dura mater not adherent; arachnoid transparent, containing ℥iij of serum in its cavity. Vessels of the pia mater on right side much congested and enlarged. Subarachnoid effusion over the whole of the right hemisphere and the anterior convolutions of the left. Lateral ventricles normal. The colour of the grey matter of the convolutions not uniform, the external third of its thickness being darker than the internal. Both the vesicular and tubular neurine softer than usual; cerebellum and medulla normal; pituitary body smaller than usual. Weight of brain 2 lb. 2 oz. Sp. gr. 1·045. Lungs healthy. Heart 7 oz., firmly contracted; aortic valves thickened; aorta contracted and atheromatous. Œsophagus presenting a jelly-like appearance of the mucous coat. Stomach: the mucous membrane soft and pultaceous; decided marks of inflammatory action in cul-de-sac and along large curvature; a patch of inflammation the size of a crown-piece near the cardiac orifice. Transverse arch of colon lying in the pelvis; small intestines contracted, and lying in the pelvis; some enlargement of the mesenteric glands; spleen contracted. Other organs healthy.

Mania from dissipation and intemperance.—S. A. S., No. 1223.—A public prostitute for twenty-five years; during that time has had seven illegitimate children; three years since was said to have been married, but this is doubtful. When the person calling himself her husband visited her in the asylum, she cried—"Oh, the brute! the devil! why did you allow him to come here? He is not my husband, and never was!" Had been maniacal three months; was extremely filthy in her habits, daubing her person with excrement, &c.; used profane language, and would have been violent if her strength had permitted. Before being brought to the asylum, she was permitted to lie in bed until her legs had becomed flexed in a fixed position, the knees on the stomach and the heels on the buttocks; she was extremely

emaciated, and altogether an abject specimen of human wretchedness. Wine and quinine, and her favourite liquor gin, were given her, with good soups, &c.; but she gradually sank and died six weeks after admission. *Post-mortem Examination.*—Circumference of cranium, 1ft. 8in.; weight of brain 2 lb. 7 oz.; capacity of cranial cavity, 41½ fl. oz.; displacement of water by brain 37 fl. oz.; cerebral atrophy 4½ fl. oz.; calvarium very thick and heavy, a quantity of sanguineous-serous fluid escaped on removing it; dura mater congested; arachnoid opaque and thick; the vessels of the pia mater congested, and containing numerous bubbles of air; grey matter of convolutions ·06 of an inch in thickness, its different layers obvious; sp. grav. of grey matter of cerebrum 1·035, of white matter 1·041, of cerebellum 1·041; substance of brain of normal appearance; an effusion of coagulated blood into the middle cerebral fossæ, to greatest extent on left side. *Lungs* healthy, the left pleural cavity containing an abundant sanguineous effusion, forming into laminæ attached to the pleura pulmonalis and costalis. *Heart* small, flabby, 4¾ oz. in weight.

General Paralysis following Apoplexy.—J. H., No. 668.—A builder, aged forty, always industrious and well conducted; the father was insane. About three months before his admission into the asylum, a woman to whom he was engaged jilted him, and married another man. For some days after this occurrence he was taciturn and dejected; he then showed symptoms of excitement in the management of his business. He then decked himself with garlands of flowers, and perambulated the streets in this masquerade guise. He visited the gardens of his neighbours, and helped himself to flowers and fruit. In the asylum he alternated between periods of depression and excitement; but eventually he recovered perfectly, and was discharged in nine months from his admission. He remained well for four years, when he had a convulsive attack, and became palsied. The medical treatment to which he was subjected having failed to restore him to health, his friends called in the aid of witchcraft, by invoking the aid of the Wise Man of Plymouth. We have been informed by a person who assisted in the ceremonies, that this man first employed a charm and incantations, which consisted in burning the viscera of a sheep in a fire made in the centre of the floor of one of the rooms in the patient's house, the fuel consisting of an ashen faggot; while the viscera were burning, incantations and passages from Holy Scripture were read. This charm having failed, in a week's time another was tried, consisting of burning tapers carried round the house at midnight, with the accompaniment of incantations said and sung. This charm also having failed, the patient was brought to the Devon Asylum, when he was found to be far advanced in General Paralysis. The symptoms, however, differed, in some respects, from the typical form of this disease; he had less tremor, and more palsy, than is usual. When asked to show his tongue, he attempted to drag it forward with his finger and thumb, so completely had he lost the power of protruding it. He had ptosis of the right eyelid. He had convulsive attacks frequently in the evening; at night he was restless and noisy, groaning and talking. He died four months after his re-admission. *Post-mortem.*—The calvarium was

normal; the dura mater was not adherent to it, but at the vertex the dura mater and other membranes were adherent to each other, and to the substance of the convolutions, by means of fibro-albuminous effusion. The arachnoid was opaque and thick, the pia mater was infiltrated with serum the substance of the brain was atrophied to the extent of 10 oz., that being the difference between the capacity of the cranium and the displacement of water by the brain; the arteries at the base were healthy; the dura mater of the falx and the middle fossæ of the brain were coated with a thin sanguineous effusion; there was also a layer of effused blood in the left middle fossa of the cranium. The layers of the vesicular neurine were very distinguishable; the tubular neurine was not obviously altered. The lateral ventricles were enlarged, and their lining membrane was covered with a granulated deposit. Sp. gr. vesicular neurine 1·033, tubular ditto, 1·037.

This case is interesting from the rare example it presents of general paralysis following Mania. It may, however, be doubted whether the general paralysis was a pure example of the affection. The sanguineous effusions were probably of some standing, yet they offered no indications of a tendency to undergo the changes common to effused blood; perhaps they ought rather to be considered in the light of albuminous exudates, coloured with blood pigment: Virchow has taken this view of similar appearances.

Homicidal Monomania; death from Pneumonia.—J. K., No. 771.—An agricultural labourer of steady and industrious habits; had thought, talked and read much on religious subjects; twelve months previous to admission he became restless, gloomy and reserved, irregular at his labours, and distressed about his soul. He had shown no disposition to suicide or violence, but had the constant feeling that he must destroy some one. On admission he was twenty-six years of age, a fine, powerful man, six feet high, with more than the average intelligence of his class. He was aware that his mind was affected, and said that his head was filled with vain and evil thoughts, and that the more he strove to get near the Scriptures the further he was from them; he felt a strong desire to commit murder, which he struggled against and thought a temptation of the devil. His head was hot, and he had some pain in it, but was otherwise in good health. In the course of a month he improved greatly, but relapsed after a visit from his friends; he however again improved, lost all his bad thoughts, and for some weeks laboured at spade-husbandry. Whilst thus engaged, he one day came to the writer and begged to be taken from the garden and placed in a safe ward, as he had experienced the strongest desire to kill some of the patients with his spade. His request was complied with, and from this time he never again lost the homicidal feeling. To avoid the murderous assault to which he felt himself impelled he often requested to be locked in his bedroom, and still more frequently tied his own hands together with a piece of packthread, which he could have snapped with the greatest facility, but which he said enabled him to resist the temptation; he was sad and morose, but never displayed the slightest violence. Six months after his

admission he was attacked with pneumonia, first of one lung and then of the other. Partial softening took place, followed by hæmorrhage, of which he died. *Post-mortem.*—The calvarium was thick and dense, the dura mater strongly adherent; the visceral arachnoid was opaque and thickened over the vertex; over the anterior lobes it was in a state of general reddening from congestion. The pia mater, over the vertex, was infiltrated with serous fluid; over the anterior lobes it partook of the congestion of the arachnoid; over the right anterior lobe there was a patch of about an inch in extent, in which there was a rough opaque deposit of fibro-albumen in the pia mater and arachnoid. The Pacchionian bodies were very large. With the exception of partial atrophy of the convolutions of the vertex, the substance of the brain presented a normal appearance. The lower lobes of both lungs were in a state of grey softening from pneumonia.

Partial recovery after acute Mania; death from a convulsive attack.—B. B., No. 708.—A baker, aged twenty-seven, of very intemperate habits; had had a previous attack; before admission had been bled very largely. Admitted with restless, mischievous Mania, with small pulse, haggard countenance and feeble powers. Under a stimulating treatment he recovered sufficiently to pursue his handicraft in the asylum. Four months after his admission he was attacked with the symptoms of pulmonary gangrene; the stethoscope, however, indicated that the disease was confined to a part of the middle of the left lung, and he entirely recovered from it, and resumed his occupation of baking. After the interval of a year, while apparently in good health, he fell from his seat at the supper table in convulsions which continued for twelve hours, when he died. *Post-mortem.*—The calvarium was found thick and dense; the membrane and substance of the brain were adherent round the crista galli, which was largely developed; the arachnoid was generally thickened and opaque; the pia mater was greatly congested, adherent, and infiltrated with a considerable amount of serous fluid. Over the petrous portion of both temporal bones, the dura mater, arachnoid, pia mater and substance of the brain were firmly adherent. The colour of the grey matter of the brain was dark, but uniform; the medullary matter was minutely injected, and of a pinkish colour. The lateral ventricles each contained 3 oz. of serous fluid; their lining membrane was smooth and normal. In the upper part of the lower lobe of the left lung was an isolated spot of indurated tissue, carnified, about 1 in. by 2 in., containing an irregularly shaped concretion, the size of a pea. The thymus gland occupied a great part of the anterior mediastinum, and was 3in. in length by 2 in. in breadth.

Acute Melancholia from fear.—W. M. D., aged thirty-two, of good general health and temperate habits. Having a tumour in the front part of the chest, he consulted a medical man respecting its nature, and having been told by the latter that the tumour was an aneurism of the aorta, and that sometime or other it would burst and cause instant death, he became greatly depressed, and in about a week he displayed a tendency to suicide. On being brought to the asylum he was very taciturn, and refused to

answer questions. He occasionally ejaculated, "O God, save my soul; I am a lost sinner." His whole attention seemed to be concentrated upon his own state of religious feeling, he rarely moved, or spoke, or appeared to take notice of occurrences. He refused food but was regularly fed with as much wine, beef-tea, arrowroot and other aliments as would have supported a healthy man; notwithstanding this, he rapidly lost flesh and strength, and died in three weeks after his admission. The tumour in his chest proved, on examination, to be a fibro-cartilaginous one; he was assured of its harmless nature immediately after his admission into the asylum, but the information afforded him no comfort. *Post-mortem.*—The skull was found to be very thin; in one place, on the parietal bone, it was as thin as paper. The dura mater adhered strongly to the calvarium, and was dark coloured from venous congestion; there was extreme congestion of the arachnoid and pia mater, giving a general strong red hue to the right anterior lobe. There were also several patches of ecchymosis in the pia mater, over the right middle lobe. Over the left hemisphere the membranes were much less injected. Over the sulci the arachnoid presented a semi-opaque appearance. The pia mater adhered firmly to the substance of the brain. The whole substance of the brain was much injected. The ventricles and coats of the arteries of the brain were normal. No pathological appearances of importance existed in any other part of the body, except the remains of partial pleurisy in the lower lobe of the left lung. The partial congestion of the cerebral membranes observed in this case is a rare appearance.

No 2.

NOTE ON CLASSIFICATION.

The writer of the chapter on Classification in this volume desires to aid a new nosological scheme, published in the 'Lancet' for November 15th by his collaborateur, Dr Bucknill. In the chapter referred to, and at p. 310, we have variously classified mental disorders according to the several points of view from which they may be advantageously regarded—psychological, physiological, and somato-ætiological. A strictly speaking *pathological* one, that is to say, one founded upon post-mortem examination, is confessedly not yet possible. We may, however, endeavour to approach it by introducing a few wide embracing divisions, such as the "orders" enumerated below, which indicate the pathogenetic relations of morbid mental states, while under these are grouped the various ætiological forms of Insanity as "genera," these genera being differentiated by various "species" according to the pathological conditions of the brain and nerves, the blood and the nutrition. The readers of this Manual will be able to supplement the classifications already given for his guidance by extracting from this scheme so much of it as approaches more nearly to the actual pathology of Insanity. This in no degree need prevent him using the psycho- and ætiological classifications employed in this work.

"Although this subject has been treated with great learning and judgment by Dr Daniel Hack Tuke in the 'Manual of Psychological Medecine,' yet, considering the different kinds, forms, or species, of Insanity, I have failed to find all the assistance which I hoped for from some one or other of the existing systems of classification, especially in regard to treatment. Several of these systems are highly instructive on certain points—either, for instance as to the psychical varieties, or the physical forms, or the pathological conditions, or, lastly, the natural groups, a small number of which undoubtedly do exist. Still I have not been able to find any one system which embraces all or nearly all the considerations which must be regarded in treatment. In this dilemma I was first tempted to state objections to the work which others have done, and especially to criticise the system of natural groups which has been most elaborated by my lamented friend the late Dr Skae. But on reconsideration I have thought that, instead of finding fault with work which, however imperfect, is of undoubted value from one point of view, it would be more useful, if not more generous, to endeavour to construct a system of my own, which might more fully answer the purpose for which we needed it—namely, as a nosological scaffolding of form for the guidance of treatment.

"My objections to the ætiological system of classification I have stated at length in a review of Morel's classifications;* and they apply in the main to Skae's similar but more elaborate one, which has been designated by Dr Clouston, its able expositor, as a system founded upon the principle of '*The exclusion of everything mental or psychical connected with Insanity.*'†

"Without quoting these objections. I have the authority of the greatest intellect which has adorned our speciality—that of Griesinger—that 'all classifications of Insanity must again, in the end, come back to the principal psychological forms of Mania, Melancholia, and Dementia, because they are actually founded in nature.'‡ Moreover, the same high authority, in his introductory lecture, republished in the 'Journal of Mental Science'; (No. 48, p. 531), says;—'This consideration of mental diseases, from a psychological point of view, is both necessary and serviceable to a firm and constant connection with the other aspect of the subject'—namely, its relation to practical medecine, and over and over again he points out that, in order to arrive at a practical diagnosis for the purpose of treatment, we must consider the psychical with the physical symptoms and the ætiology. 'The real problem for solution is to determine not merely the character of the mental aberration, but, as far as possible, the nature of the lesion of the brain and of the nerves.' In the classification of Insanity there are some forms, he says, which, in framing our divisions, we must refer to the psychical characters alone, for they are deficient in all other symptoms, but in other cases we are not bound to adopt this course alone. He appears fully to have recognised the principle, although he did not attempt to carry it into effect, that the classification of Insanity should be made to

* 'Journal of Mental Science,' No. 38, p. 286.

† Ibid., No. 87, p. 343.

‡ 'Die Pathologie und Therapie,' &c., p. 121.

depend upon a combination of the psychical characters and of the pathological conditions.

"*The novelty of the scheme of classification now proposed consists in the combination of psychical characters of phenomena with pathogenetic relations and pathological conditions; the first forming the Classes, the second the Orders and Genera, and the third the Species.*

"Since the *ætiological* classifications of Van der Kolk, Morel, and Skae have been published a most important step, in my opinion, has been taken in advance by the *pathological* classification of Dr Batty Tuke;* but even this thoughtful writer entirely omits all consideration of mental symptoms, and such an omission in a classification of mental diseases seems to me somewhat like the omission of flowers and foliage in a botanical system.

"In the formation of classes I have followed Griesinger's simple division into states of psychical depression, psychical exaltation, and psychical debility; substituting, however, the conventional and now thoroughly established terms of Melancholia, Mania, or Dementia.

"I have reversed the usual order of Mania and Melancholia, because I believe that melancholia is the dominant psychical condition, and that Guislain was only wrong in being too exclusive in his theory that *phrenalge* was the source of all *phrenesie*. Idiocy I have relegated to a sub-class. Pinel included it in Dementia, and it was only separated therefrom by Esquirol. Pathologically, the distinction between primary and secondary Dementia is at least as great as between brain defect occurring before and after infancy. Cretinism is not congenital but toxic Dementia.

"The foundation of the *orders* and *genera* on pathogenetic relations is no doubt a natural one, and I think it can scarcely fail to be practically useful by impressing on the mind the kind of relation which the mental disease has with the bodily condition; for the treatment of the patient, both as to mind and body, must necessarily depend to a very great extent upon this relation.

"I do not presume to think that I have enumerated all the *genera* which, eventually, it may be found desirable to distinguish; and am well aware that the correctness of the position which I have assigned to some of the *genera* in the *orders* is quite open to discussion.

"The inclusion of Puerperal Insanity in the Climacteric order is open to grave objection. This order, however, is intended to include vesanias which arise from or in conditions which are not pathological; and, although a deviation from bodily health generally precedes puerperal Insanity, still the puerperal state can no more be considered necessarily a diseased state than that of puberty or old age. If there be a difficulty the identification of *species* will resolve it, seeing that Puerperal Insanity may be septicæmic, anæmic, or neuralgic.

"Of the *Species* there is little to say, except that they are the most important of all the divisions, and the most imperfect. Much has been left out which ought to have been admitted if knowledge had been sufficient. I trust, however, no condition has been admitted which ought to have been excluded.

* 'Journal of Mental Science,' No. 74, p. 195.

"Such conditions as are vaguely expressed by the Brunonian terms 'sthenic' and 'asthenic' have been omitted. The conditions of all the secreting organs have been omitted, simply from lack of sufficient knowledge; and the excess or defect of irritability of the muscles, which form such marked features in mental disease, have been omitted for the same very unsatisfactory reason.

"On the other hand, the consideration of abnormal cerebral conditions which have not hitherto been sufficiently regarded as nosologies has been introduced. The ill-understood but undisputed state in which either the brain or the nerves, or both, wear away their physiological powers without interruption or repose, and its reverse, I have designated by the terms *hypertriptic* and *atriptic*, from τριβω, to rub.

"The *hypertrophic* and *atrophic* conditions of nutrition are well defined, if not yet well investigated, but the *caco-trophic* is a wide field of inquiry, in which ground has hardly yet been broken. Sclerosis of the brain and of the spinal column is caco-trophic. How many varieties of it are there? If there is a paresic variety, is there not also a syphilitic one, and, maybe, some others? In this division into species I claim the aid of the microscopic and chemical pathologist, for upon it is founded the all-important question of ultimate diagnosis.

"The field for clinical research is the correlation of the classes, species, and genera; but, even while this correlation is in process of being worked out, any concrete case of mental disease which is assigned to its proper place in the division of this system will have attributed to it a succession of characteristics which will scarcely fail to aid in the more systematic knowledge of its nature and the more definite aim of its treatment.

"If it should be objected that this system is a complicated and artificial one, like the botanical system of Linnæus, the validity of the objection will be fully admitted, with the proviso that a complicated system is needful for complicated and ill-understood phenomena. With larger knowledge a more simple and more natural system will take its place.

CLASSES *of Psychical Phenomena.*

1. Melancholia.
2. Mania.
3. Dementia.

SUB-CLASSES *of Psychical Combinations and Transmutations.*

1. Melancholia, simple.
2. „ combined with Excitement.
3. „ with Stupor [*Melancholia attonita*].
4. „ Mania and Dementia alternating [*Folie circulaire*].
5. Mania, simple.
6. „ with depressing Emotions.
7. „ intercurrent with Melancholia.
8. „ „ Dementia.
9. „ alternating with Sanity [*Recurrent Mania*].

10. Dementia, simple and primary.
11. „ consecutive on Mania or Melancholia.
12. „ congenital. Idiocy and Imbecility.

Orders *of Pathogenetic Relations.*

1. Simple Insanity. *Idio-encephalic.*
2. Allied Insanity.
3. Sequential Insanity.
4. Concurrent Insanity.
5. Egressing Insanity.
6. Metastatic Insanity.
7. Climacteric Insanity.

Genera *of Pathogenetic Relations.*

Simple Insanity:

1. Insanity from Hereditary Predisposition.
2. „ Moral Influences.
3. „ Intellectual Overwork.
4. „ Direct Cerebral Injuries.
5. Insanity of General Paralysis [*encephalo-rachitis*].

Allied Insanity, influenced by other diseases, but independent:

1. Insanity with Cardiac Disease.
2. „ Pulmonary Disease, Emphysema, Phthisis, &c.
3. „ Enteric Disease.
4. „ Renal and Vesical Disease, &c. &c.

Sequential Insanity, caused by other disease which has subsided:

1. Insanity following Idiopathic and Exanthematous Fevers.
2. „ „ Inflammations, as Pneumonia.
3. „ „ Injuries to the Cerebro-Spinal Axis, Apoplexies, &c.

Concurrent Insanity, caused by other diseases or diseased conditions which continue to exist:

1. Insanity from Cachexias—
   Syphilitic, Chlorotic, Cretinic, &c.
2. Insanity from Epilepsy.
3. Insanity from Chorea.
4. „ Alcoholism.
5. „ Masturbation.
6. „ Starvation.

Egressing Insanity, growing out of the former disease, of which it is an exaggeration:

1. Insanity egressing from Hysteria.
2. „ „ Ecstasy.
3. „ „ Hypochondriasis.

Metastatic Insanity, from the shifting or ceasing of other disease or suppression of discharges:

1. Insanity from Rheumatism.
2. „ Erysipelas and Skin Diseases.
3. „ Suppression of Habitual Discharges, Hæmorrhoids, or Ulcers.
4. „ Suppression of the Catamenia.

Climacteric Insanity, caused by natural conditions of development and decline:

1. Insanity of the Pregnant and Puerperal State.
2. „ Pubescence.
3. „ Climacteric Decline.
4. „ Old Age.

SPECIES *of Pathological Conditions differentiating the Genera by Pathological Conditions of the Brain and Nerves, of the Blood and the Nutrition.*

Neurotic
1. Hyperæsthetic.
2. Anæsthetic.
3. Neuralgic.
4. Sympathetic.
5. Apathetic.
6. Hypertriptic.
7. Atriptic.

Hæmic
8. Hyperæmic.
9. Anæmic.
10. Septicæmic.
11. Uræmic.
12. Toxic.

Trophic
13. Hypertrophic.
14. Atrophic.
15. Cacotrophic or Cachectic.

No. 3.

RECENT RETURNS OF NUMBERS OF INSANE, ETC.

The returns given in the text (p. 111, &c.) are those which, at the time of the sheet passing through the press, were then recent. Shortly afterwards, the Blue Book of the Lunacy Commissioners was issued. From it we find that, in England and Wales, there were on the 1st of January 1878, 68,538 insane and idiotic persons (males, 31,024, females, 37,514), an increase during the year of 1,902. The admissions were 15,963, being 1,577 more than in the year ending December, 1876.

In Scotland the total number of insane and idiotic on Jan. 1st, 1878, was 9,097 (males, 4,218, females, 4,879). The Commissioners do not give any estimate of the number of unreported cases; formerly, they gave 2,000. Compared with the corresponding figures, given at p. 115, there has been an increase of 235.

The following results are noted by the Commissioners: (1) There has been, during the past year, no increase of the number of private lunatics; (2) there has been a considerable increase of the number of pauper lunatics;

(3) the population of private asylums has not increased in an appreciable degree; (4) no pauper lunatic is now provided for in a private asylum; (5) there has been no indication of an increasing tendency to place patients in the lunatic wards of poorhouses, and (6) there has been a falling off in the number of pauper patients provided for in private dwellings, but an increase of the number of private patients provided for in that manner. The proportion of the insane to the population in 1878 was 24·7 to 100,000.

In Ireland, on Jan. 1st, 1878, the number of insane and idiotic was 19,006 (registered, 12,380, at large, 6,626), the total increase being 276.

For Great Britain and Ireland the total numbers on Jan. 1st, 1878, were 96,641, or including the unreported cases in Scotland, and lunatics in England in charge of their Committees (235), 98,906. The above figures do not materially affect the proportion of the insane to the population already given.

Summary of Numbers in Great Britain and Ireland, January 1st, 1877, and January 1st, 1878.

	Jan. 1st, 1877.		Jan. 1st, 1878.
England and Wales . . .	66,636	...	68,538
Scotland	8,862	...	9,097
Ireland	18,730	...	19,006
Total .	94,228	...	96,641

If the supposed unreported cases in Scotland were added, as also the lunatics in England and Wales in charge of their Committees, the totals would, respectively, be 96,480 and 98,906, making an increase of 2426.

Mortality of the insane.—Since the statistics of mortality given at p. 131 were prepared, Dr Arthur Mitchell has contributed an important paper to the subject in the 'Journal of Mental Science,' April, 1879. He compares the mortality in the Scotch Lunatic Asylums with that of the general community above the age of 10 years. "When this is done, it appears that the mean annual death-rate for the general population is 1·7 per cent. as compared with 8·3 per cent. for the population in asylums. The following table shows that the latter, at all the quinquennial periods between 10 and 50, die pretty nearly at the same rate, with the exception of those whose ages fall in quinquennium 25—30, among whom a distinctly lower death-rate occurs. In the general population, on the other hand, the death-rate for all the quinquennia between 10 and 50 increase in geometrical progression as the ages rise. After the age of 50, that is, when the working period of life is over, the death-rates in asylums rise from quinquennium to quinquennium by a considerable but irregular progress. In the general population, again, after the age of 50, the rise is rapid and steady."

Age in years.	Mean annual mortality per 100 persons resident in asylums at different ages.	Mean annual mortality per 100 of the general population at different ages.	Number of deaths in asylums to one death in the population at different ages.	One death annually in persons living of the general population at different ages.	One death annually in persons living in asylums at different ages.
From					
10 to 15	6·2	·58	10·7	172·71	16·1
15 to 20	6·8	·79	8·6	126·74	14·7
20 to 25	6·3	·99	6·4	101·11	16·0
25 to 30	5·1	1·05	4·9	94·88	19·5
30 to 35	6·2	1·09	5·7	91·32	16·1
35 to 40	6·4	1·29	5·0	77·34	15·6
40 to 45	6·8	1·33	5·1	75·36	14·8
45 to 50	6·8	1·66	4·1	60·13	14·7
50 to 55	7·9	1·97	4·0	50·84	12·6
55 to 60	9·1	2·47	3·7	40·49	11·0
60 to 65	11·7	3·32	3·5	30·09	8·5
65 to 70	15·0	4·72	3·2	21·20	6·7
70 to 75	18·7	6·91	2·7	14·47	5·3
75 to 80	26·7	10·89	2·5	9·18	3·7
80 to 90	39·6	20·63	1·9	5·13	2·5
90 to 100	20·4	38·41	0·5	2·63	4·9

Proportion of persons living at different ages in Scotland and the Scotch asylums.—The liability of different ages to insanity, referred to at p. 74, is illustrated by the following table, also prepared by Dr Mitchell, and given in the article already cited:

Ages in years.	Proportion of persons at different ages in 1000 of the whole population of Scotland above ten years of age.	Proportion of persons in asylum at different ages in 1000 of the whole population of Scotch asylums.
From		
10 to 15	148·9	1·8
15 to 20	134·3	18·3
20 to 25	117·0	50·8
25 to 30	101·9	87 2
30 to 35	88·1	116·7
35 to 40	75·7	127·0
40 to 45	70·3	127·8
45 to 50	59·0	116·6
50 to 55	53·9	105·2
55 to 60	42·0	83·6
60 to 65	39·4	68·3
65 to 70	27·0	45·0
70 to 75	21·8	31·7
75 to 80	11·5	16·3
80 to 90	8·5	3·1
90 to 100	0·7	0·5
100 and upwards	0·03	

INDEX.

A.

Abdominal disorders, Insanity from, 368
Abendberg (*see* Guggenbuhl)
Absinthe as a cause of Insanity, 94
Achish, case of, 468
Actions against medical men, 8
Active hereditary neurosis, 64
Acts of Parliament, 1—17
Acute Insanity, pathology of, 561
„ Mania, 137, 293, 418, 585, 700; case in frontispiece, 765 (*see* Mania)
„ maniacal delirium, 302, 305; treatment, 735
„ Melancholia, 137, 232, 715
Addison (Dr Adam) on epileptic Insanity, 339; chemical pathology of the brain, 600
Æsthesiometer, 146
Ætiological classification, 29, 310
Ætiology of Insanity, 54, 310
Affective Insanity, 37
„ Monomania, 49, 195
Age, influence of, 74—77; how it affects prognosis, 127
Agricultural counties, Insanity in the, 80
Ague and Insanity, 371
„ as a cause of Insanity, 98
Aidoiomania, 282
Albers, 160
Alcohol as a cause of Insanity, 94—96
Alcoholic Insanity, classification, 41; increasing frequency of, 95; prognosis in, 137; definition, 390; symptoms, 390; synonyms, 390; treatment, 730
Aldridge (Dr C.) on the pupil in General Paralysis, 316
Allbutt, Dr, on ophthalmoscope in Mania, 298; in Melancholia, 298; in Monomania, 298; in General Paralysis, 316; syphilitic Insanity, 388; treatment, 738
Alleged increase of lunacy, 112
Allen on lunar influence, 79
Amentia, 30
Amenomania, 196, 234
Amenorrhœal Insanity, 41, 262, 348
America, 116
American asylums, experience of, 61, 75, 93, 99
Ammonia, carbonate of, 720
Amsden, Dr, 203, 251, 257
Amyl, nitrate of, 763
Ancient classifications, 29
Andral, 207, 579
Andrews, Dr, 722
Anæmia, 515
„ (cerebral), 585
Anæmic Insanity, 44
Anstie on heredity, 64; on dipsomania, 290; senile Insanity, 345
Antimony, 701, 737
Aperients, 736
Apoplexy and paralysis as affecting prognosis, 136
Apothecary defined, 6
Appendices, 765
Appetite in Mania, 300
Arachnoid, appearance of, in Insanity, 571, 614
Aretæus, on classification, 30
Arlidge (Dr C.) on ophthalmoscope in General Paralysis, 316
Arndt, 611, 613, 684, 738
Arnold, his classification, 32, 38; cases, 206; on Mania, 296; pathology, 544
Arthritic Insanity (*see* gouty Insanity)

Asthenic gangrene, 596
„ idiopathic Mania, 42
Asylum, definition of, 6
„ choice of, 650
Asylums, numbers in, 111; treatment in, 680; classification in, 680
Atrophia cerebri senium, 579
„ „ præcox, 579
Atrophic irritation of the brain, 563
Atrophy (cerebral), 521, 577
Attendants, 654
Aubanel, on the seasons, 77
Aurelius (Marcus), 233
Austro-Germanic War, influence of, 102
Autenreith, 166
Auzouy, Dr, on cretinism, 171
Aztec boy, 155

B.

Bacon, Dr, on handwriting of Insane, 308
Baillarger, on heredity, 60; influence of war, 100; idiocy and cretinism, 170; *stupidité*, 186; Monomania, 197; hallucinations, 207; *folie à double forme*, 233; febrile Insanity, 372; layers of the brain, 578
Baker, Dr, 122
Ballardini, on Pellagra, 395, 398
Balls, concerts, &c., 690
Barbarism (*see* Civilisation)
Bastian, Dr, on morbid histology, 564, 621; specific gravity of the brain, 589
Baths, 739
Bayle, on pathology of Insanity, 547; General Paralysis, 601
Beach Fletcher, Dr, 164
Beck on feigned Insanity, 474
Becquerel and Rodier, 598
"Bedlams," 18
Bed-sores, 596, 756
"Bee in his bonnet," 18
Beer as a cause of Insanity, 96
Béhic, 81
Belhomme on classification, 39; political excitement, 100; idiotic heads, 155; on *stupidité*, 186; on pathology of Insanity, 601
Bell (Dr Luther), on classification, 39; maniacal excitement, 302; General Paralysis, 333; masturbatic Insanity, 346
Bell's disease, 302
Bemiss, Dr, on consanguineous marriages, 69
Benedict, Dr, on suicides, 276
Bergeret, 395
Bergmann, 616
Bernard, Claude, 192
Berthier, 381
Bertolini, 75, 549
Bertrand, 273
Bethlem Hospital, 60, 104, 127, 128, 132, 188, 226, 276, 362, 401
Bicêtre, 88, 97, 208, 230
Bichat on sleep, 528
Billing, Dr, 503
Billod, 399
Binet, 727
Binns, Dr, 705
Blandford, Dr, 628; on acute delirious Mania, 302; pathology of Insanity, 564, 621; discharge of patients from asylum, 695; treatment, 723, 745
Bleeding in Insanity, 699
Blood-vessels (cerebral) in Insanity, 616
Boarders, 17
Bodily condition, peculiarities of, in Insanity, 412
Boerhaave on hypochondriasis, 228; on insane brains, 543
Boethius, 66
Bonetus, 543
Bonnet on morbid histology, 608, 630
Boston Lunatic Hospital, 126
Bottex, 601
Bouchard, 621
Bourdin, 100
Bowels, in Melancholia, 220; in Mania, 299
Boyd, Dr, on frequency of various forms of Insanity, 116; recoveries, 125, 127, 128; General Paralysis, 331, 603, 609
Brain, chemical pathology of, in Insanity, 600
„ in Insanity, state of, formulated, 507
„ normal structure of, 611
Brandreth, 706
Brierre de Boismont on ætiology, 103; cretinism, 166, 169; dementia, 178; delusions, 199; hallucinations, 207; moral Insanity, 239; suicide, 274, 277; General Paralysis, 332, 466, 601;

puerperal Insanity, 362; pellagrous Insanity, 400; memory of the insane, 664; treatment, 742
Brigham, Dr, 61
Brightening before death, 128, 192
Broadmoor Asylum, 268, 269
Brodie (Sir B.), 597
Bromide of potassium, 727—34, 750, 754, 763
„ ammonium; sodium; iron, 727
Brown (Dr Thomas), 143
Browne (Dr Crichton) on cranial compression, 55; on moral insanity, 244; on homicidal mania, 255; on kleptomania, 278; on dipsomania, 288, 290; sphygmographic tracings, 320—323; treatment, 719, 734, 735, 755, 763
Browne (Dr W. A. F.) on epileptic idiocy, 159; family of idiots, 161, 162
Brühl-Cramer on dipsomania, 289
Buckle, Mr, 62
Bucknill, Dr, his classification, 36, 790; case of General Paralysis, 331; *et passim*
Buranelli, case of, 228, 450
Burman, Dr, on General Paralysis, 281, 324, 329, 331; on heart disease and insanity, 379; conium, 719
Burrows (Dr G. M.) on heredity, 66; sex, 72; paralytic Insanity, 333; puerperal Insanity, 357, 359; Melancholia attonita, 449; treatment, 701
Burton, 72, 218, 671
Buttolph, Dr, 124
Buzzard, Dr, 389

C

Cacodæmonomania, 205
Cælius Aurelianus, 30, 72, 74
Calabar bean, 735, 763
Calderini, 395
Calmeil on general paralysis, 547, 600, 601
Calmet, 203
Campbell (Dr Donald), 251
Campbell, Dr John, 718, 727, 732
Cannabis Indica, 731
Cappelain, Mr Le, his table of mortality, 134
Cardan, 208
Carlini, case of, 217
Carpenter, Dr, case of idiocy, 152
Case-book, form of, 147
Casson, Mr, cases of General Paralysis, 178, 281, 321, 327, 328
Cat, delusion of being a, 203
Catamenia in prognosis, 139; in melancholia, 222; in mania, 301
Causes of Insanity, 54 (*see* Ætiology)
Celibacy (*see* Marriage)
Cellini, case of, 200, 211
Cells, degeneration of cerebral, 627
Cellular pathology, 518—521
Celsus, his classification, 30; treatment 648
Cerebellum, 580
Cerebral atrophy, 521—533; method of estimating, 522, 523; causes of, 526; positive, 527; relative, 527; amount of, in sixty-three cases, 524, 525; senile, 529; pathology of, 577
Cerebral hæmorrhage, 584
„ substance in Insanity, 577; specific gravity of, 587
Cerise, 168
Certificates (*see* Medical)
Cessati, 398
Chæromania, 234
Chains employed for the insane, 2
Chancery lunatics, 4, 13
Change of habit and disposition in Insanity, 406
Change of life (*see* Climacteric)
Charcot, 621
Charenton, 185, 392
Cheadle, Dr, 166
Chemical pathology of the brain, 600
Chesterton, Mr, 462
Child, Dr, 72
Chloral, 721, 732
Choking, 756
Choreomania, 373, 400
Christison (Sir R.), 289
Cibber's statue, 429
Circular Insanity, classification of, 45; prognosis in, 137
Civilisation, influence of, 83
Clarke (Dr Lockhart) on general paralysis, 333, 604; histological researches, 532, 564, 618, 628
Classification in asylums, 651, 680
Classification of Insanity, 27—54, 310, 790
Cleland, Dr, 612

Climacteric Insanity, classification of, 41; prognosis in, 137, 366; treatment of, 729
Climate, influence of, 77
Clouston, Dr, on classification, 45; on intemperance, 93; on physical causes, 105; rheumatic Insanity, 373, 374; tubercular Insanity, 383—385; treatment, 725, 727, 748, 763
Coke (Lord), his definition of idiocy, 150
Collins, 359
Colney Hatch Asylum, 88
Colon, Insanity proceeding from, 368
Commissioners in Lunacy, 5, 740
Concealed Insanity, 476
Congenital idiocy, 157
„ or infantile deficiency, 311
Congestion (cerebral), 585
Conium, 719
Conolly on classification, 33; on relapses, 129; on Melancholia, 220; on pulse in Mania, 297; on maniacal exhaustion, 302; treatment, 661
Consanguineous marriages, influence of, 68; facts relating to, 69—71
Constitution or diathesis, 67
Convulsionnaires, 238
Copland, Dr, 72, 750
Costallat, 398
Cottage treatment of the poor, 696
Counter-irritation, 737
Counties, Insanity in various, 86, 87
Country life, influence of, 80
Cowper, his hallucination, 209
Coxe (Sir James), 696
Cranium, 566
Crawford, Dr, 243
Cretinism, classification of, 41, 46, 48, 157, 400; etymology of, 163; synonyms of, 164; definition of, 164; distribution of, 164; symptoms of, 164; cases of, 164, 165; three classes of, 168; ætiology of, 170; prognosis of, 174
Crichton on hypochondriasis, 452
Crichton Royal Institution, 59, 61
Crime and Insanity, 252, 269, 487
Criminal lunatics, 5
Crises of Insanity, 139
Croton oil, 737
Cullen, his classification, 31; on hypochondriasis, 452; treatment, 638, 706
Curling, Mr, 165
Curwen, Dr, on influence of war 102
Cynanthropia, 200

D

Dæmonomania, 32, 204; case of, 205
Dagonet, 219, 395
Daguin, 79
Damerow, 58
Darwin (Mr G. H.), 70
David, his feigned Insanity, 468
Davy (Mr H.), 319
Debreyne, 273
Decaisne, 94
Definition of Insanity, &c., 19, 25
Deiters, 613
Delasiauve, 103, 344
Delaye, 601
Délire aigu, 302
Delirium tremens, 41, 290, 390, 434
Delusional Insanity, classification of, 49; prognosis, 136, 215; synonyms, 195; definition, 195; cases, 199—206, 208—214; treatment, 668
Delusion, definition of, 197
Demeanour towards a patient, 424
Dementia or Fatuity, classification of, 33, 41, 49, 177; hereditary, 61; frequency of, 116—118; recovery in, 125; prognosis in, 136; synonyms of, 176; definition of, 177; symptoms of, 177; cases of, 178—182, 186—189, 791; primary, 184, 429; diagnosis, 425—431; consecutive or secondary, 185, 428; acute, 185; chronic, 190; ætiology of, 190; senile, 52, 190; prognosis, 136, 192; treatment, 737, 738, 762, 780; cases in frontispiece, 768, 769
Dementia paralytica (*see* General Paralysis)
Denman (Rev. D.), 459
Denne, Mr, 324
Dentition, injurious effects of, 57
De Quincey, 511
Derivation, 737
Desmaisons, 155
Despine on lightening up before death, 192; Insanity and crime, 271; alcoholic Insanity, 395

Deuteropathic Insanity, 52, 310, 345
Devergie, 259
Devay, 72
Devon Asylum, experience of the, 124, 324, 329—331, 332, 465, 588, 672, 675, 683, 696, 721, 722, 765—790
Diagnosis of Insanity, 402—488
„ Dementia, 425—431
„ Mania, 431—443
„ Eccentricity, 443—445
„ Melancholia, 445—450
„ Hypochondriasis, 450—454
„ Monomania, 454—458
„ Moral Insanity, 458—461
„ Kleptomania, 461—462
„ General Paralysis, 462—468
„ Feigned Insanity, 468—476
„ Concealed Insanity, 476—479
„ Recovery, 479—488
„ Drunkenness, 434
Diathesis, insane, 67, 643
Diathetic Insanity, 44
Dickson (Dr. J. T.), 363
Digitalis, 734
Dipsomania, classification of, 41, 50, 290; hereditary, 61; synonyms, 287; definition, 287; symptoms, 288; prognosis, 291
Dirty habits in the insane, 299; prognosis in regard to, 138
Disappointed affection as a cause, 91, 99
Dissection of bodies of the insane, 565
Dog, delusion of being a, 203
Domestic treatment of the rich, 693
„ troubles as causes of Insanity, 91, 108
Dormant neurosis, 64
Douche, 739, 763
Doutrebente on General Paralysis, 333
Down, Dr, on idiocy, 52, 70, 156, 170, 176
Dowse, Dr, 389
Dreaming and Insanity, 503, 504
Dreams a cause of homicide, 266
Dress, peculiarities of, 412
Drunkenness, diagnosis of, 434
Dumas, 721
Duncan, Dr., 176, 389
Dunlop, 222
Dura mater, appearance of, in Insanity, 569, 613

E

Ear, blood-tumour of, 126
Earle (Dr. Pliny), on age, 75; occupation, 83; civilisation, 84; marriage, 89; intemperance, 94; epilepsy, &c., 97—99; moral and physical causes, 104, 105; recoveries, 123, 125; pupil in Mania, 301; bleeding, 699; narcotics, 706
Earlswood Asylum, 151, 165, 175
Early treatment, its importance, 120, 138
Eberbach Asylum, 352
Eccentricity, diagnosis of, 443
Echeverria, Dr., on epileptic Insanity, 340—342, 344
Eclampsic Idiocy, 157, 159
Ecstacy, 219
Edgar, 469
Edinburgh Asylum (Morningside), 256, 263, 277, 324, 356, 357, 362, 363, 365, 370, 383
Edmunds, case of, 270
Eichberg Asylum, 352
Electric stimulus in diagnosis of General Paralysis, 465
Electricity, treatment by, 738, 751
Emotion (with expectation), influence of, 229
Emotional or affective states, 142, 143—145
Emotional Insanity, classification of, 36, 49, 50; synonyms, 239; symptoms, 243; treatment, 645, 664 (*see* Moral Insanity)
England and Wales, insane in, 113, 795; recoveries in, 118; mortality, 132, 133
Enteric Insanity, 44, 368
Ependyma of the ventricles, 572
Epidemic Insanity, classification of, 42, 277,; symptoms, 400
Epilepsy as a cause of Insanity, 91, 92, 97; frequency of, 117
Epileptic Idiocy, 157, 159
Epileptic Insanity, 336; classification of, 41, 45, 49; prognosis in, 136; cases, 261, 337, 338; masked, 336; symtoms, 343; treatment, 728—729, 748; writing in, 309
Epithelium, 616
Ergot of rye, 734, 763

Erhard, 208
Erlenmeyer, 389, 598
Erotomania, classification of, 32, 50; synonyms, 282; definition, 282; symptoms, 283; cases, 283, 783
Esmarch, 389
Esquirol, his classification, 33; on heredity, 58; sex, 72, 74; influence of moon, 79; moral and physical causes, 103; idiocy, 150, 151; imbecility, 162; Dementia, 177, 183, 184, 186; moral Insanity, 184; Monomania, 195, 196, 244, 456; personal identity, 199; dæmonomania, 205; hallucinations, 206, 208; illusions, 213; reasoning Melancholia, 217, 221; lypemania or Melancholia, 196, 221; partial exaltation, 236; moral Insanity, 241; symptoms of mania, 294; puerperal Insanity, 356, 362; pellagrous Insanity, 400; tubercular Insanity, 382; pathology, 518, 545, 546; treatment, 640, 673, 705, 706, 739
Ether sulphuric, 720
Etiology, *see* Ætiology
Etmuller, 221
Etoc Demazy, 186
Etty, measurements of his head, 154
Evidence, hints in giving, 271
„ of lunatics, 9
Examination, manner of, 410
Excitement (general), as a cause of Insanity, 102, 103
Exciting causes of Insanity, 54, 90
Exhaustion in Mania, 302; treatment, 709, 735
Exmouth, experiment of sanatorium at, 692

F

Fagge, Dr., on sporadic cretinism, 165
Falret, 146, 195, 233; on classification, 35
„ (Jules), on epilepsy, 344; on acute Mania, 432; masked Epilepsy, 336; alcoholic Insanity, 395; treatment, 733
False sensations, 206
Fardel (Durand), 587
Farr on statistics, 109, 118, 134, 135
Fear and Fright as causes of Insanity, 91, 99, 190
Feigned Insanity, diagnosis of, 468—47; cases, 471—475
Felix Plater, 166
Ferriar, 705
Ferrier, Dr, his experiments, 684
Ferrus, 126, 186
Fever as a cause of Insanity, 91, 98 (*see* Post-febrile Insanity); influence of, in recovery, 192
Fischer, 126
Flemming, 38, 222, 344
Fodéré on cretinism, 166, 169; the brain, 545
Food and Work, 684
Forced alimentation, 745
Forceps, injurious effects of, 56
Forms of Insanity, relative frequency of, 116—118
Foville (*père*) on hallucinations, 207; on pulse in insane, 298; pathology of Insanity, 546
Foville (Achille) on dipsomania, 289; General Paralysis, 333; puerperal Insanity, 358
France, alcoholic Insanity in, 94—96; number of insane in, 115
Franco-Prussian War, influence of, 100—102
Frank (Joseph), 451
Franque (Arnold von), 352
Frazer, Dr, 157, 326
Friedreich, 37
Fright and fear as causes of insanity, 91, 99, 100

G

Galen on classification, 30; on the influence of the moon, 78; on hypochondriasis, 451
Gall on heads of idiots, 155; his just criticism of Pinel, &c., 545
Gangrene of the lungs, 590, 592
Gasquet, Dr, 398
Gavin, Dr, 222
General Paralysis, classification, 34, 35, 41, 42, 49; hereditary, 63; frequency, 117; prognosis, 136, 329; temperature, pulse, and respiration, 316, 317; cases, 178, 315, 326—332, 787; sphyg-

mograms, 320—323; synonyms, 312; definition, 312; symptoms, 312; writing and composition, 305, 307, 325; diagnosis, 436, 462; age, 323, 324; sex, 324; ætiology, 327; pathology, 600, 787; treatment, 754; case in frontispiece, 767, post-mortem, 787
Georget on *Stupidité*, 186
Gerlach, 578
Gestation, Insanity of, classification, 41; synonyms, 352; symptoms, 353; cases, 353, 354; hereditary predisposition in, 355; prognosis in, 355
Gesture, peculiarities of, 416
Gheel, 696
Goître, 165, 171, 173
Goldsmith, 443
Gooch, Dr, on puerperal Insanity, 358, 363
Goodfellow, 622
Gouty Insanity, 380
Grabham, Dr, on idiots, 165, 176
Greding, 543, 549
Gregory, Dr, 102
Grey matter, thickness of, in insane, 524, 525; morbid histology of, 629; layers of, 578
Grief as a cause of Insanity, 92, 98, 103
Griesinger on classification, 37, 51; hypochondriacal melancholy, 225; hysteria, 229; transitory Mania, 260; Insanity of gestation, 352; climacteric Insanity, 366; hepatic Insanity, 370; rheumatic Insanity, 373; tubercular Insanity, 383; pathology of Insanity, 561, 573, 581, 614; phthisis in Insanity, 591; gangrene of the lungs, 592; Bright's disease, 595; cottage-treatment, 697
Griggs, case of, 266
Guggenbuhl on Cretinism, 166, 167, 172, 174, 176
Guislain on the influence of the seasons, 77; occupation, 81; moral causes, 104; melancholia, 221, 225; hypochondriasis, 225; *monomanie vaniteuse*, 235; erotomania, 284; pulse in insane, 298; pathology, 551—553; arachnoid, 571; gangrene of the lungs, 592; opium, 706
Gull (Sir W.), 615
Guy, Dr, on pulse in Mania, 297

H

Hæmatoma auris, 126
Hæmorrhage (cerebral), 584
Hæser, 400
Hagen, 591
Haigh, Dr, 324
Hair in Mania, 296, 440
Halford (Sir H.), 479
Halle Asylum, 58
Haller on insane brains, 543
Hall (Marshall), 714
Halloran, 705, 714
Hallucinations, hereditary, 63; definition of, 197, 206, 207; cases, 207—213; frequency of, 208; of hearing, 209; of sight, 211; of smell, 212; of taste, 212; in epileptic insanity, 343; pathology, 206, 207, 535, 537; treatment, 732
Haly Abbas, 202
Hamlet, 469
Handwriting and composition of the insane, 305—309
Hanshalter, 344
Hanwell Asylum, 129, 135, 366
Haslam, 549; on general paralysis, 600; on Insanity among women, 72
Head and spine, affections of, as causes, 91, 97
Heart, disease of, in Insanity, 373, 589
Hecker, 400
Heinroth, his classification, 36, 237; on concealed Insanity, 477
Helm, 363
Henle, 613
Hereditary Insanity, 40
„ predisposition as a cause, 57; as affecting prognosis, 128, 135; as affecting diagnosis, 405; treatment, 644
Hereditary transmission of different but allied neuroses, 63
Hergt, Dr, on uterine Insanity, 349
Hildenbrandt, 389
Hippocrates, terms used by, 29; on the influence of the stars, 78; on melancholia, 195
His on morbid histology, 564, 622
Histology (morbid), 610—633
Hittorf, 597

Hoffbauer, 36; his classification of imbecility, 163
Hoffmann, 372
Homicidal Insanity, classification of, 256; synonyms, 254; definition, 254; symptoms, 256, 273; cases, 256—268, 789; prognosis, 269; diagnosis, 461; post-mortem, 789
Hood (Sir Chas.), his statistics, 104, 132; on Townley's case, 488
Hopkins, on influence of moon at the Worcester Asylum (U.S.), 79
Horse, delusion of being a, 203
Hospital, definition of, 6
Howard (Luke), 80
Howden, Dr, on epileptic Insanity, 338; on kidney disease in the insane, 595; on pathology of Insanity, 608, 628
Hull Borough Asylum, 177, 281, 313, 327, 328
Humoral pathology of Insanity, 597
Hun, Dr, on hæmatoma auris, 126; on pulse, 193
Huss (Dr Magnus), 390
Hutcheson, Dr, on dipsomania, 290, 291
Hutchinson (Mr J.), 151
Huth (Mr A. H.), on consanguineous marriages, 68
Hydrocephalic idiocy, 157, 159
Hydropathy, 744
Hyoscyamus, 718, 732
Hyperæmia (cerebral), 507—515; *e vacuo* 576
Hypertrophy (cerebral), 580
Hypochondriacal melancholy, 41, 225, 757
Hypochondriasis, 225—227, 453
Hypodermic injection, 717
Hysteria, 228, 438
Hysterical Insanity, classification of, 41; prognosis, 137; symptoms, 349; cases of, 351; treatment, 730, 749

I

Idea-hunt, 561
Ideal Insanity, 32
Ideational or intellectual states, 142, 143—145
Ideler, 36
Idiocy, classification of, 33, 48, 151; hereditary, 61, 63; frequency of, 117; prognosis in, 136, 151, 157—162; synonyms, 149; definition of, 150; symptoms of, 151; etymology of, 149; cases of, 152—162; by deprivation, 157, 161; ætiology of, 170; treatment, 682
Idiopathic or primary insanity, 40—42, 53
Idiophrenic Insanity, 44
Ill-health as a cause of Insanity, 98
Ill-treatment of lunatics, 11
Illegal restraint, 8, 11
Illenau Asylum, 349
Illusion, definition of, 197, 213; cases, 214
Imbecility, classification of, 30, 33, 48, 151; hereditary, 61, 63; prognosis in, 136; definition of, 162; case in frontispiece, 766
Incoherence, 36
Increase of reported lunacy, analysis of, 113
Indian hemp (*see* Cannabis)
Inflammation, congestion, and anæmia of the cerebral substance, 583
Inflammatory Idiocy, 157, 161
Insanity in general, 18—141
„ *see* Table of Contents
Insomnia in relation to prognosis, 140
„ treatment of, 710, 723, 725, 732
Instinctive Monomania, 49, 195, 239, 242
Intellectual Insanity, 36
„ Monomania, 49, 195
Intemperance as a cause of Insanity, 93; statistics of West Riding Asylum, 107
Intermittent Mania, 303
International Congress of Alienists, their classification, 45; on the causes of Insanity, 90, 107
Intoxication, analogy between it and Insanity, 504, 505
Ireland, Dr, on classification of idiots, 152, 157—162
Ireland, number of insane in, 114, 796
Irresistible impulse, 243, 270, 273, 287
Irving, case of, 237

J

Jackson (Dr Hughlings), on handwriting, 308; on mental automatism, 337

Jacobi on classification, 37; on relapses, 129; on the pulse in mania, 297; treatment, 737
Jarvis, Dr, on consanguineous marriages, 71; sex, 74; study, 99
Jakes, case of, 472
Jenner, 737
Jessen on pyromania, 285; Syphilitic Insanity, 387
Johnson, 208
„ (Dr George), 615, 707
Jolly, 398
Jordan, case of, 262
Jones (Dr B.), 599
„ (Dr Handfield), 373, 581—582
Josionck (H.), 623
Joy, as a cause, 91, 103

K

Kalmuc idiots, 157
Katz, Dr, 727
Kent (Constance), case of, 488
Kesteven, Dr, 564
Kiber, 622
Kidneys, disease of, in Insanity, 594
"Kink in the head," 18
Kirkbride, Dr, on intemperance, 93; recoveries, 125, 129
Kitching, Dr, 270
Kleptomania, synonyms, 278; definition, 278; hereditary, 279; classification, 280; characteristics, 281; diagnosis, 461
Knight, Dr, 476
Kolk (Van der) on classification, 39; intermittent Mania, 303; masturbatic Insanity, 347; climacteric Insanity, 367; intestinal Insanity, 368; vesical Insanity, 369; tubercular Insanity, 382; post-mortems, 611
Krafft-Ebing on traumatic Insanity, 312

L

La Bruyère, 444
Labour (tedious), injurious effects of, 56
Lactation, Insanity of, 363; classification, 41; synonym, 363; definition, 363; symptoms, 364; case, 364, ætiology, 365; prognosis, 365
Lancaster Idiot Asylum, 158
Lane, Mr, 751
Larceny in General Paralysis, 281
Lardner on lunar influence, 80
Larrey on Nostalgia, 223
Lasègue, 36
Lavater, 419, 422
Lawson, Dr, on the pupil in general paralysis, 313; on perception of pain in general paralysis, 313
Laycock on classification, 33, 34; lunar influence, 80; handwriting 308; hysterical Insanity, 349; Insanity of gestation, 352; pia mater, 622 medical logic, 635
Lee on intemperance, 93
Legal enactments in reference to Insanity, 1,
„ tests of responsibility, 269
Legrand du Saulle, 100, 101, 259, 395
Leidesdorf, 353
Lelut on pathology, 547, 548
Letters of patients, 305, 487
„ single patients, 13
Leubuscher, 63, 389
Leudet, 373
Leuret on lunar influence, 79; on pulse in mania, 297; pathology, 548—551; treatment, 634, 672—674
Leyden, 625
Licensed house defined, 6
Liebig, 495
Liebreich, 21, 26
Light wines, their effect, 94, 95
Limopsoitos, 44
Linnæus, 31, 36
Little, Dr, 55
Liver, disease of, in Insanity, 594
Lombroso, 397—399
Louis, 373
Love-sick Melancholy, 225
Lucas (Prosper) on heredity, 62, 63, 64, 67
Lucid intervals, 303
„ interval defined, 27
Lugony, Dr, on cretinism, 172
Lunacy, 18
Lunacy Laws, 1—17
Lunatic, definition of, 25
Lunatics, laws relating to, 1

Lungs, disease of, in Insanity, 382, 590
Lunier on intemperance, 94; war, 96; number of insane in France, 115; Cretinism, 176
Luschka, 572
Lycanthropia, 200; cases of, 202
Lypemania, 33, 196

M

Macdonald, Dr, on temperature in General Paralysis, 319
Macdonald (Dr James) on puerperal Insanity, 357, 358, 362
Macintosh, Dr, 706
Macleod, Dr, case of traumatic Insanity, 311; case of General Paralysis, 315; temperature in General Paralysis, 318, 319; General Paralysis, 328, 330, 331
Madness, 18
Magnan, 94, 126, 390, 394
Mahomet, case of, 237
Major, Dr, 106, 107, 187, 580, 611, 619, 629
Mania, classification of, 29, 31—33, 49, 50; hereditary, 61, 65, 67; frequency, 116—118; recovery, 125; synonyms, 292; symptoms, 293; definition, 292; cases, 294, 297, 302, 769—773, 775—777, 779—782, 785—787, 789; asthenic, 301; sthenic, 301; intermittent, 303; ætiology, 304; chronic, 303, 436; terminations of, 303, 304; prognosis, 137, 305; mortality, 305; writing and composition, 305; acute, 296, 431; diagnosis, 431—443; incomplete primary, 437; treatment, 700, 703, 708, 743, 760, 769—773, 775—777, 779—781; post mortems, 785—787.
Mansfield (Lord), 477
Manufacturing counties, Insanity in the, 80—83
Marc on homicidal Insanity, 266; on instinctive and reasoning Monomania, 242; case of uterine Insanity, 262; pyromania, 285; kleptomania, 278; aidoiomania, 283, 284
Marcé on ætiology, 72, 104; on instinctive Monomania, 261; on puerperal Insanity, 358; on chronic alcoholism, 393
Marcet, 395
Maréville Asylum, 203
Marriage, influence of, 88
„ its propriety, when Insanity is in the family, 64
„ of threatened lunatics, 647
Marriages of consanguinity, 68; facts relating to, 69—71
Marshall, Mr, 176
Masked epilepsy, 336
Masturbatic Insanity, classification, 41; description, 346; treatment, 750
Maudsley, Dr, his classification, 37; on heredity, 64, 66; on moral Insanity, 246; masturbatic Insanity, 348; insane temperament, 643; treatment, 694, 702
Mayo, Dr, 634
McIlwaine, Rev. W., on revivals, 238
McIntosh, Dr, 717
McClelland on goître, 173; on cretinism, 165
McLean Asylum, 39, 346
McNaughton, case of, 270
Mead on influence of moon, 80
Mechanical restraint and seclusion, 674
Meckel, 544
Medical attendant, definition of, 6
„ certificates, 6, 7, 10, 16
Medicinal treatment, 698
Medico-Psychological Assoc. Committee, their classification, 46; form of examination of patient, 147
Melancholia canina, 202
Melancholia, classification of, 30, 32, 33, 37, 40, 49, 225; hereditary, 61, 63; frequency of, 116—118; recovery in, 125; prognosis in, 37, 234; ætiology, 233; synonyms, 215; with stupor, 218—220; definition, 215; complex, 225; symptoms (psychical), 216; symptoms (physical), 220; attonita, 219, 449; simplex, 49, 221; reasoning, 217; with delusions, 49, 225; hypochondriacal, 225; religious, 230—232; cases, 217, 218, 226, 227, 777—779, 789; mortality, 305; diagnosis, 435, 445; treatment, 706, 715, 741, 759, 777—779; post-mortem, 790
Membranes, morbid histology of, 613
Mendel, 389

Meningitis, diagnosis of, 435
Menstruation (*see* Catamenia)
Mercury as a cause, 94
„ treatment by, 702
Merson, Dr, on climacteric Insanity, 366, 368
Meschede on General Paralysis, 333; pigmentary degeneration, 628
Metaphysical theory of Insanity, 518
Metaphysics, 143—146
Metastatic Mania, 41, 44
Methomania, 288
Meyer, 389, 488, 614
Michaëlis, 62, 166
Michéa on heredity, 58; on hypochondriasis, 228, 451; on the blood in General Paralysis, 598
Mickle (Dr J.), on General Paralysis, 314; on syphilitic Insanity, 386—389
Mickley, Dr, 188, 200, 319
Microcephalic idiocy, 154, 157, 158
Mierzejewski, 611
Millard, Mr, 176
Miller, Dr, 279
Minchin, Dr, 566
Misanthropical melancholy, 225
Misaurus (Philander), 380
Mitchell (Dr Arthur), on consanguineous marriages, 70; on relapses, 129, 130; idiots, 157; dipsomania, 289
Mitivié on lunar influence, 79; on pulse in Mania, 297
Mixed Insanity, 45
Modern classifications, 31
Monomania, classification of, 33, 50; hereditary, 61; frequency of, 116—118; recovery in, 125; definition of, 195; affective, 239, 241; instinctive, 239, 241, 242; *sans delire*, 239, 240; reasoning, 241, 242; transitoria, 259; diagnosis, 454; pathology, 537—540, 782; post-mortem, 782
„ of pride, 235, 236; case in frontispiece, 766
„ suspicion or persecution, 201
„ vanity, 50, 235
„ with delusion, 49
Monro, Dr H., 76
Monteggia, 474
Monti on ophthalmoscope, 298; on pellagrous Insanity, 399
Montrose Asylum, 338
Moon, influence of the, 78
Moral causes, 91, 92, 103, 107
Moral imbecility, 41, 245—247
Moral Insanity, classification of, 36, 49, 50; hereditary, 61; frequency of, 116—118; prognosis, 136, 252; cases, 200—206, 209—214, 243, 244, 247—251; in the form of melancholia, 221; synonyms, 239; symptoms, 243; ætiology, 252; diagnosis, 458; treatment, 645, 664
Moral treatment, 660
Morbid histology, 610—633
Moreau on heredity, 62, 63, 72; monomania, 195; insane diathesis, 643; douche, 739
Morel, his classification, 40; on heredity, 62—64; intemperance, 94; war, 101; cretinism, 171; pyromania, 286; dipsomania, 292; masked epilepsy, 336, 338; insane diathesis, 643; treatment, 681
Morell, Mr, 143
Morgagni, 541, 542, 705
Mortality of the insane, 131, 796
Moxon, Dr, 564
Mundy (Baron), 696
Munro, Dr, 477

N

Napoleon, his familiar spirit, 208
Nasse, 37, 102; post-febrile Insanity, 371
Needham, Dr, his statistics, 59, 88, 93, 97—99, 103, 104, 128; cases, 210, 306; on homicidal impulse, 271; handwriting of insane, 305, 306; paralytic Insanity, 335
Nerve-fibres, 629
Nervous system, disorders of, in general, must be studied, 145
Neuroglia, 532, 612, 623
Neuroses, 31
Newth, Dr, 739
Noble, Dr, on opium, 714
Non compos mentis, 25
North (Mr. S. W.), 270
Northampton Lunatic Hospital (Mass.), 75, 83, 94, 97, 104, 125

Nosology of Insanity (*see* Classification)
Nostalgia, classification, 32, symptoms of, 222; cases, 222—225
Notional Insanity, 32
Nowes, Dr., on ophthalmoscope, 298
Number of the Insane, 109, 116, 795, 797
Nutrition, in Mania, 301
Nymphomania, classification, 348; synonyms, 282; case, 783; post-mortem, 784

O

Obersteiner, on morbid histology, 622
Occupation, influence of, 80
Occupations, particular, 82
Œdema (cerebral), 587
Oinomania, 287
Old age, insanity from, 345
Onanism (*see* Sexual vice)
Oneirodinia, 32
Ophthalmoscope in Mania, 298; Melancholia, 298; monomania, 298; General Paralysis, 316
Opium as a cause of Insanity, 94; as a remedy, 704—718
Orange, Dr., case of epilepsy, 339
Order for reception of patients, 14, 15
Ordronaux, Dr., 252
Organic Dementia, 46, 333
Outbreak of Insanity, treatment of, 648
Ovario-mania, 41, 348, 730
Owen, 176
Oxaluria, Mania of, 42, 45

P

Pacchionian bodies, 572
Paget (Sir James), on healthy nutrition, 539; cerebral atrophy, 567; senile gangrene, 597
Palamedes, 468
Palate in idiots, 156
Pantophobia, 458
Paralytic Idiocy, 157, 160
Paralytic Insanity (Insanity with ordinary paralysis), 46, 333; cases, 334, 335
Parchappe, his classification, 35; on influence of the seasons, 77; occupation, 80; marriage, 88; moral causes, 104, 105; recoveries, 128; brain in idiocy, 155; goître and cretinism, 176; pathology, 553—561, 583, 601
Parish medical officers, duties of, 7, 11
Parsey, Dr, 594, 596
Pathetic Insanity, 32
Pathogenetic classification, 310
Partial exaltation, 49, 234,
„ Insanity, 26, 195; pathology of, 540
Parturition in relation to prognosis, 140
Pathological classification, 29, 35, 792
„ changes, special, 541
Pathology of Insanity, 488
Pathomania, 36
Paulus Ægineta, 202, 204
Pauper Insanity, 81, 86
„ lunatics, 4, 5, 7, 17
„ lunatics to paupers, proportion of, 87
Pauper lunatics to the population, proportion of, 86
Paupers to the population, proportion of, 86
Payments for visiting lunatics, 14, 17
Peacock, Dr, case of idiocy, 153; pellagrous Insanity, 395, 398
Peculiarities (*see* Diagnosis)
Peddie, Dr, on dipsomania, 289
Pedler, Dr, 362
Pellagrous Insanity, 44; synonyms, 395, definition, 395; symptoms, 395; ætiology, 398; prognosis, 399
Penalties of medical men, 10
Pennsylvania Lunatic Hospital, 125, 129
Perfect, Dr, 218, 268
Periodical Insanity, prognosis in, 137
Persecution, Monomania of, 201, 210, 263, 269
Persecution, delusion of, 45, 201
Perspiration, 139
Phillips, Dr, 706
Phosphaturia, Mania of, 42, 45
Phrenitic Insanity, 44
Phthisical Insanity, classification, 41; definition, 383; symptoms, 383; prognosis, 385
Phthisis in Insanity, 591
Physician defined, 6
Physical causes, 91, 92, 103, 107
Physiognomy of Insanity, 418
Physiological classification, 29, 34

Pia mater, 573, 614
Pierce, case of, 259
Pinel on classification, 31, 32; ætiology, 103; idiocy, 152; Dementia, 192; hypochondriasis, 228, 451; *manie sans délire*, 240, 460; *manie raisonnante*, 241; febrile Insanity, 372; pathology, 518, 544, 545; treatment, 637—640, 661, 742
Plutarch, 230
Pneumo-mélancolie, 222
Podagric Insanity (*see* Gouty Insanity), 380
Poincaré, 608, 630
Political excitement, as a cause of Insanity, 91, 100
Pommerol, Dr, 174
Poor, cottage treatment of, 696
Population, proportion of insane to the, 108, 795, 797
Portal, on pathology of Insanity, 544
Post-connubial Insanity, 41
„ febrile Insanity, classification of, 42, 371
Power, Dr, 744
Precordialangst, 222
Predisposing causes, 57—90
Predisposition, 57 (*see* Hereditary)
Pregnancy in relation to prognosis, 140
„ Insanity of, classification, 41; symptoms, 352 (*see* Gestation)
Previous attacks, 406
Prichard, Dr, on classification, 36; on influence of occupation, 80; imbecility, 163; Dementia, 191; monomania, 195; Melancholia, 221; religious exaltation, 237; Moral Insanity, 239, 242, 245, 458; erotomania, 283; Mania, 293; puerperal Insanity, 363; on hypochondriasis, 451; treatment, 671
Private patients, treatment of, 649
Prodigals, 26
Prognosis, 118—141
Prophylaxis, 643
Prostitution as a cause of Insanity, 98
Protopathic Insanity, 52, 137, 310, 311
Psychical school of alienists, 36
Psycho-ætiological classification, 43
Psychological classification, 28, 31, 36
Psychology, sketch of, 143, 146
Psycho-symptomatological classification, 32
Pubescent Insanity, 41, 345; treatment, 730
Puerperal Insanity, classification of, 41, 355; prognosis in, 137, 363; synonyms, 355; definition, 355; symptoms, 357; cases, 360, 361; ætiology, 361; statistics of, 362; treatment, 753 (*see* Gestation, Pregnancy, and Lactation)
Pulse in Melancholia, 221; Mania, 297—299; General Paralysis, 317, 320—323; Epilepsy, 340
Pupils in Mania, 301
Purgatives, 736
Pyromania, synonyms, 284; definition, 284; cases, 285—287; classification, 286

R

Ramaer 621
Ray, Dr, on prognosis, 140-1; on moral Insanity, 240, 245; pyromania, 287
Rayner, Dr, 156
Reasoning Mania or Monomania, 239, 242, 243
„ Melancholia, 17, 25
Recoveries, proportion of, 118
Recovery, diagnosis of, 479
Recurrent Mania, 117, 303
Registered hospital defined, 6
Reid, Dr, on puerperal Insanity, 356, 359, 360
Reid on the mind, 143
Relapses, 129
Religious anxiety or excitement, as a cause, 91, 99, 238
„ exaltation, 50, 237, 238
„ Melancholia, 230; cases, 231, 232; etiology, 233; prognosis, 234
Removal from an asylum, 691
Reproductive organs, disease of, in Insanity, 594
Residence, peculiarities of, 412
Respiration in general paralysis, 316, 317
Responsibility (*see* Legal)
Restraint and seclusion, 674—678
Résumé of treatment, 757—764
Retreat (*see* York Retreat)

Revivals, influence of, 234, 238
Rheinau Asylum, 386
Rheumatic Insanity, 373; classification of, 44; cases 373, 375
Rich patients, treatment of, 691
Richardson (Dr B.), 721, 726
Rindfleisch, 618, 625
Ripping, on insanity of gestation, 352; on puerperal insanity, 356, 357
Robertson (Dr Lockhart) on moral insanity, 240; suicides, 278; treatment, 734, 744, 763
Robin, 622
Rokitansky, on cellular and vascular changes, 517; cerebral atrophy, 567; dura mater, 569, 570; arachnoid, 571; pia mater, 574, 576; pathology of General Paralysis, 605; sclerosis, 625
Roman law, its classification, 30
Romberg, 453
Roussel, 189, 400
Rush, on influence of moon, 78; imbecility, 163; amenomania, 196, 234
Rutherford, Dr, 564, 604

S.

St. Luke's Hospital, 188, 200, 319
St. Yon Asylum, 77, 80, 128, 129, 133
Salerio, 396
Saliva in Mania, 300
Salivation, 703
Salpêtrière, 88, 97, 153, 356, 367
Salvatori, 289
San Servolo Asylum, 395, 396
Sander, 176
Sanity, diagnosis of Mania from, 438
Sankey, Dr, on General Paralysis, 605; specific gravity of brain, 587, 588; forced feeding, 746
Sankey (Dr H. R. O.), 323
Sardinian Commission on cretinism, 166, 170, 171
Satyriasis, synonyms, 282
Saulle (Legrand du), 100, 101, 259, 395
Saunders, Dr, on chloral, 721
Sauvages, 31, 150
Savage, Dr, on heredity, 60; case of kleptomania, 279; tracings of the pulse in Mania, 298, 299; insanity and paralysis, 334; hysterical insanity, 250; puerperal mania, 359, 363; heart disease, 380; syphilitic insanity, 389; chloral, 726; Calabar bean, 735
Scalp and cranium, 566
Schedule (F) No. 1, 14
„ (F) No. 2, 15
„ (F) No. 3, 16
Schirnadzig, case of, 266
Schüle, 389
Sclerosis, 623, 624
Scotland, number of insane in, 114, 795; mortality, 132, 796; ages, 797
Seasons, influence of the, 77; affects prognosis, 132
Sebastian, 372
Secretions in prognosis, 139
Sedgwick, Dr, on heredity, 2
Séguin, 63, 151, 176
Senile Dementia (*see* Dementia), 191
„ Insanity, 41, 46; treatment, 730
Sensations, false, 206
Setons, 738
Sex, influence of, 60, 61, 72—74; affects recovery, 128
„ relative liability of, to insanity, 72
Sexual vice as a cause of insanity, 91, 98, 346; in relation to prognosis, 127; treatment, 750
Seymour, Dr, 707, 717
Shaftesbury (Lord), 93, 481, 482
Shaw Claye, Dr, 156
Sheaf, Dr, case of General Paralysis, 324
Sheep-like idiot, 152
Sheldon, Mr, 188
Sherlock, Dr, 722
Shower-bath (*see* Baths)
Shute, Dr, 706
Sibson, Dr, on rheumatic insanity, 376—379
Sick nursing, 660
Siegburg Asylum, 129, 371
Simple Insanity, 45
Simpson (Sir James) on puerperal Insanity, 358, 359
Single patients, 4, 11, 695
Skae, Dr, his classification, 41-2, 311, 348; case of homicidal mania, 256; dipsomania, 289; paralytic Insanity, 334; masturbatic Insanity, 348; uterine Insanity, 348; hysterical Insanity,

350; climacteric Insanity, 366; alcoholic Insanity, 392.
Skin, in Melancholia, 221; in Mania, 299
Skull (*see* Cranium)
Sleep, in prognosis, 140
„ homicide during, 266
„ state of capillaries in, 502
Smith, case of, 263
Snell, 470
Soemmering, 544
Solly, Mr, 578
Somatic school of alienists. 36, 37
Somato-ætiological classification (*see* also ætiological ditto), 43, 310, 311
Somerset County Asylum, 116, 125, 127, 128, 336, 364
Southey, case of, 191
Special pathological changes, 541
Specific gravity of cerebrum, 524, 587
Sphygmographic tracings in Dementia, 188, 192—194; in Mania, 299; in General Paralysis, 320, 323; in epileptic Insanity, 340—341
Spine and head, affections of the, 91, 97
Spiritualism as a cause of Insanity, 99
Spleen, disease of, in Insanity, 594
Statement on admission, 15
Statistics of Insanity (*see* also Ætiology), 108, 795
Stedman, Dr, 126
Steinau, on kleptomania, 279
Sthenic idiopathic Insanity, 42
Stewart (Dugald), 143
Stewart, Dr, 59, 61
Stimulants, 735
Stokes, Dr, 737
Stomach and intestines, disease of, in Insanity, 593
Study as a cause of Insanity, 91, 99
Stupidité, or Stupemania, 186, 219
Suicidal Insanity, classification of, 272; hereditary, 63, 276; synonyms, 272; definition, 272; modes of death, 274; age, 275; sex, 276; marriage, 276; hereditary transmission, 276; seasons, 276; motives, 277; prognosis, 278; case in frontispiece, 767; treatment, 716, 721, 745, 773, 775
Suicidal Insanity, with delusion, 49
Sunstroke as a cause of Insanity, 97
Surgeon defined, 6
Sutherland (Dr H.), 367
Sutherland, Dr, on the urine, 300, 598; treatment, 704
Sutton, Dr, 615
Switzerland, cretins of, 166
Sydenham on ague, 98; hypochondriasis, 228; suicides, 276; febrile Insanity, 371; gouty Insanity, 380
Sympathetic Insanity, classification of, 40, 41, 44
Sympathy, Insanity by, 533
Symptomatological classification, 28, 31
Synonyms of Insanity, 18
Syphilitic Insanity, classification of, 41; symptoms, 386; treatment, 751

T.

Tabic form of General Paralysis, 608
Tables:
Proportiou of paupers to population in counties of England and Wales iu 1871, 86
Proportion of pauper lunatics to population in counties of England and Wales in 1871, 86
Proportion of pauper lunatics to paupers in counties of England and Wales in 1871, 87
Total number of insane and idiotic persons in England and Wales in 1877, 111
Ratio of lunatics and idiots to popnlation in England and Wales, 1859-1877, 113
Average proportion of recoveries at the York Retreat, 1796-1872, 119
Proportion of recoveries at the York Retreat, according as the patients have been admitted once, twice, or three times, 1796-1878, 122
Mortality at different ages in county and borough asylums, &c., 1854-58, compared with the general death-rate, 133
Average monthly temperature, pulse, and respiration of a case of General Paralysis, 317
Examination of the encephalic organs in sixty-three cases of Insanity, 524—525

Tables (*continued*):
Mortality at different ages in Scotch lunatic asylums, compared with that of the general community above ten years of age, 796
Proportion of persons living at different ages in Scotland and the Scotch asylums, 797
Tardieu on the handwriting of insane, 308; epileptic Insanity, 340; pellagrous Insanity, 400
Tartrate of antimony, 701
Tears in relation to prognosis, 140
Temperature, influence of, 77; affects prognosis, 129
Temperature of body, 296, 297; in General Paralysis, 316, 317.
Tephrylometer, 510
Theomania, 205, 237, 238
Thielmann, 727
Thierri, 400
Thirst in Mania, 300
Thomeuf, 395
Thompson (Dr Geo.) on pulse-tracings in General Paralysis, 320, 323; in epileptic insanity, 340
Thompson (Mr J. B.), on crime and Insanity, 252, 271
Thore on the seasons, 77; marriage, 89; febrile Insanity, 372
Thorne, Dr, 337
Thurnam, Dr, on heredity, 61; sex, 73; age, 75; agriculture, 81; statistics of Insanity, 118, 128, 130, 131, 135; brain-weight, 176
Tilt, Dr, 281, 366
Tobacco as a cause of Insanity, 94
Tomsa, 622
Tongue in Melancholia, 221; in mania, 300
Tonics, 738
Town life, influence of, 80
Townley, case of, 271, 488
Toxic Insanity, 41, 50, 52, 310, 390
Transitory Mania, 258
Traumatic idiocy, 157, 160
„ Mania or Insanity, 311; classification of, 41, 312
Travelling, when Insanity is threatened, 646
Treatment of Insanity, 634
Trombotto, 168
Troussean, 344
Tubercular disease in Insanity, 591
„ Insanity, definition, 383; symptoms, 383; prognosis, 385
Tuke (Dr D. Hack), the douche, 739; *et passim*
Tuke (Dr J. Batty), his classification, 44, 45; on General Paralysis, 326; Insanity of gestation, 354; puerperal Insanity, 356, 358, 359; Insanity of lactation, 364; histological observations, 532, 537, 564, 580, 608, 628
Tuke (Dr T. Harrington) on General Paralysis, 466, 467-8; forced alimentation, 745
Tuke (Samuel), 126
Turin Asylum, 75
Turkish baths, 743
Tuthill (Sir G.), 479
Typical forms of Insanity, 50, 765
Typhomania, symptoms of, 302; treatment, 709, 736

U

Ulysses, 468
United States, number of insane in, 116
Unnatural crime in relation to diagnosis, 487
Unsoundness of mind, 26
Unthrifts, 26
Urinary disorders, uræmia from, 369
Urine in Insanity, Chemistry of, 598
„ in Melancholia, 221; Mania, 300; puerperal Insanity, 60; intestinal Insanity, 369
Uterine disorders as causes of Insanity, 91, 97
„ Insanity, 262, 348; treatment, 730, 776
Utero-Mania, 41, 282, 348

V

Valentine, 510
Valsalva, 705
Van Helmont, 639, 739
Van Swieten, 670, 705

Vesaniæ, 31
Violence, insane, treatment of, 678
Virchow on synostosis in cretinism, 173; function of the brain-cells, 491; cellular pathology, 521; neuroglia, 532; Ependyma, 572; amyloid bodies, 629
Vogel, 31, 150, 575
Vogt, 176
Voisin (Aug.), 35
Volitional Insanity, 36
,, states, 142, 143, 144

W

Wagner, 176
Wakefield Asylum, 152, 187, 337, 362, 365, 366, 735, 738
Wallis, Mr, his case of idiocy, 152
War as a cause of Insanity, 100
Warren, case of, 471
Watson, case of, 271
,, Dr, 502
Weakness of Mind, 46
Webster, Dr, statistics, 276, 362
Wedl, 505, 510
Weight-curve in prognosis, 138
Wells, Jane, case of, 287
Welsh, Dr, 143
Wenzels, the, 166
Westphal on General Paralysis, 333, 604—607, 608; syphilitic Insanity, 389
Wet sheet or pack, 744
Whipping lunatics, 635, 638
Whitehead, Dr, 72
Widowhood (*see* Marriage)
Wigan, Dr, 248
Wilks, Dr, case of homicidal mania, 257; on General Paralysis, 333
Wille, 386, 389
Willes (Mr Justice), 270, 271
Williams (Dr C. J. B.), 506
Williams (Dr D. W.) on treatment, 734, 739, 745, 746
Williams (Dr W. Rhys) on recovery, 124; acute Dementia, 188, 189; Hypochondriacal Melancholy, 226; Insanity and ordinary Paralysis, 334; rheumatic Insanity, 375
Willis, Dr, 638, 705
Wilts County Asylum, 88
Winslow (Dr F.), 80
Wolff, on the pulse in the insane, 194, 299
Wolf-madness, 200, 203
Wood, case of, 477
Wood, Dr, 746
Woodness, 18
Woodward, Dr, on influence of moon at the Worcester Asylum, U.S., 79, 80; on moral Idiocy, 245
Worcester Asylum, U.S., 79, 80
Workhouses, 5
Work, in the treatment of the insane, 684
Wounded feelings as causes, 91, 103
Wright, Dr, 370
"Wud," 18

Y

Yarmouth Royal Naval Hospital, 311, 327, 329, 330, 331, 332
Yellowlees, Dr, case of homicidal mania, 263, 750
York Asylum, 59, 79, 88, 93, 97, 98, 99, 103, 104, 120, 125, 128, 132, 133, 210, 311, 335
York Retreat, 58, 75, 80, 104, 105, 119, 121—123, 124, 128, 132, 133, 135, 327; cases at the, 153, 180—183, 185, 209, 211, 212, 275, 304, 327—329

Z

Zillner, 155

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INDEX.

Abercrombie's Medical Jurisprudence, 4
Adams (W.) on Clubfoot, 11
——— on Curvature of the Spine, 11
Allingham (H.) on Derangements of Knee-joint, 11
Allingham (W.) on Diseases of the Rectum, 14
Barnes (R.) on Obstetric Operations, 5
——— on Diseases of Women, 5
Basil's Commoner Diseases and Accidents, 10
Bateman's Aphasia, 9
Beale on Liver, 8
——— Microscope in Medicine, 8
——— Slight Ailments, 8
——— Urinary and Renal Derangements, 13
Bellamy's Surgical Anatomy, 3
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Bentley's Manual of Botany, 7
——— Structural Botany, 7
——— Systematic Botany, 7
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——— Sarcoma and Carcinoma, 13
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——— Short Contributions, 12
Day on Diseases of Children, 6
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Druitt's Surgeon's Vade-Mecum, 11
Duncan (A.), on Prevention of Disease in Tropics, 7
Duncan (J. M.), on Diseases of Women, 5
Ebstein on Regimen in Gout, 9
Ellis's (E.) Diseases of Children, 6
Ellis's (T. S.) Human Foot, 11
Ewart's Bronchi and Pulmonary Blood Vessels, 8
Fagge's Principles and Practice of Medicine, 8
Fayrer's Climate and Fevers of India, 7
——— Natural History, etc., of Cholera, 7
Fenwick (E. H.), Electric Illumination of Bladder, 14
Fenwick's (S.) Medical Diagnosis, 8
——— Obscure Diseases of the Abdomen, 8
——— Outlines of Medical Treatment, 8
——— The Saliva as a Test, 8
Flint's Principles and Practice of Medicine, 7
Flower's Diagrams of the Nerves, 3
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Freyer's Lithotomy, 14
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Gorgas's Dental Medicine, 12
Gowers' Diseases of the Brain, 9
——— Diseases of the Spinal Cord, 9
——— Manual of Diseases of Nervous System, 9
——— Medical Ophthalmoscopy, 9
Granville on Gout, 9
Guy's Hospital Formulæ, 2
——— Reports, 2
Habershon's Diseases of the Abdomen, 10
Harley on Diseases of the Liver, 9
——— Inflammations of the Liver, 9
Harris's (C. A.) Dentistry, 13
Harris's (V. D.) Diseases of Chest, 8
Harrison's Surgical Disorders of the Urinary Organs 12
Hartridge's Refraction of the Eye, 12
Harvey's Manuscript Lectures, 3
Heath's Certain Diseases of the Jaws, 10
——— Injuries and Diseases of the Jaws, 10
——— Minor Surgery and Bandaging, 10
——— Operative Surgery, 10
——— Practical Anatomy, 3
——— Surgical Diagnosis, 10
Higgens' Ophthalmic Out-patient Practice, 12
Hillis' Leprosy in British Guiana, 13
Hirschfeld's Atlas of Central Nervous System, 4
Holden's Dissections, 3
——— Human Osteology, 3
——— Landmarks, 3
Hood's (D. C.) Diseases and their Commencement, 6
Hood (P.) on Gout, Rheumatism, &c., 9
Hooper's Physician's Vade-Mecum, 7
Hutchinson's Clinical Surgery, 11
——— Rare Diseases of the Skin, 13
Hyde's Diseases of the Skin, 13
Jacobson's Operations of Surgery, 11
James (P.) on Sore Throat, 12
Jessett's Cancer of the Mouth, &c., 13
Johnson's Asphyxia, 8
——— Medical Lectures and Essays, 8
Jones (C. H.) and Sieveking's Pathological Anatomy, 4
Jones' (H. McN.) Diseases of the Ear and Pharynx, 12
——— Atlas of Diseases of Membrana Tympani, 12
Journal of Mental Science, 2
Keyes' Genito-Urinary Organs and Syphilis, 13
Lancereaux's Atlas of Pathological Anatomy, 4
Lane and Griffiths' Rheumatic Diseases, 9
Lawson's Milroy Lectures on Epidemiology, 5
Lewis (Bevan) on the Human Brain, 4
Liebreich's Atlas of Ophthalmoscopy, 12
London Hospital Pharmacopœia, 2
Lückes' Hospital Sisters and their Duties, 6
Macdonald's (J. D.) Examination of Water and Air, 4
Mackenzie on Diphtheria, 12
Maclagan on Fever, 8
McLeod's Operative Surgery, 10
MacMunn's Clinical Chemistry of Urine, 13
Macnamara's Diseases of the Eye, 12
——— Bones and Joints, 11
Mapother's Papers on Dermatology, 13
Martin's Ambulance Lectures, 10
Maxwell's Terminologia Medica Polyglotta, 14
Mayne's Medical Vocabulary, 14
Middlesex Hospital Reports, 2
Moore's (N.) Pathological Anatomy of Diseases, 4
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Morris' (H.) Anatomy of the Joints, 3
Morton's Spina Bifida, 11
Mouat and Snell on Hospitals, 4
Nettleship's Diseases of the Eye, 12
Nixon's Hospital Practice, 8
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Ogston's Medical Jurisprudence, 4
Ophthalmic (Royal London) Hospital Reports, 2
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Owen's Materia Medica, 6
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Pavy on Diabetes, 10
Pharmaceutical Journal, 2
Pollock's Histology of the Eye and Eyelids, 12
——— Leprosy as a Cause of Blindness, 12
Priestley's Intra-Uterine Death, 5

[*Continued on the next page.*

Purcell on Cancer, 13
Rae's Eczema and its Treatment, 13
Raye's Ambulance Handbook, 10
Rentoul's Dignity of Woman's Health, 8
Reynolds' (J. J.) Diseases of Women, 5
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Richardson's Mechanical Dentistry, 12
Roberts' (D. Lloyd) Practice of Midwifery, 5
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——— Illustrations of Skin Diseases, 14
——— Syphilis, 14
Robinson (W.) Endemic Goitre or Thyreocele, 12
Ross's Aphasia, 9
——— Diseases of the Nervous System, 9
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Royal College of Surgeons Museum Catalogues, 2
Royle and Harley's Materia Medica, 7
St. Bartholomew's Hospital Catalogue, 2
St. George's Hospital Reports, 2
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Sieveking's Life Assurance, 14
Silk's Manual of Nitrous Oxide, 12
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Smith's (E.) Clinical Studies, 6
——— Diseases in Children, 6
——— Wasting Diseases of Infants and Children, 6
Smith's (J. Greig) Abdominal Surgery, 6
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Snow's Palliative Treatment of Cancer, 13
——— Reappearance of Cancer, 13
Southam's Regional Surgery, 11
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——— Pharmacopœias of London Hospitals, 7
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——— Uses of Electrolysis, 11
Stocken's Dental Materia Medica and Therapeutics, 13
Sutton's General Pathology, 4
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Swayne's Obstetric Aphorisms, 6
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Taylor's (F.) Practice of Medicine, 8
Thin's Cancerous Affections of the Skin, 13
——— Pathology and Treatment of Ringworm, 1
Thomas's Diseases of Women, 6
Thompson's (Sir H.) Calculous Disease, 14
——— Diseases of the Prostate, 14
——— Diseases of the Urinary Organs, 14
——— Lithotomy and Lithotrity, 14
——— Stricture of the Urethra, 14
——— Suprapubic Operation, 14
——— Surgery of the Urinary Organs, 14
——— Tumours of the Bladder, 14
Thorowgood on Asthma, 9
——— on Materia Medica and Therapeutics, 6
Tibbits' Map of Motor Points, 10
——— How to use a Galvanic Battery, 10
——— Electrical and Anatomical Demonstrations, 10
Tilt's Change of Life, 6
——— Uterine Therapeutics, 6
Tirard's Prescriber's Pharmacopœia, 7
Tomes' (C. S.) Dental Anatomy, 12
Tomes' (J. and C. S.) Dental Surgery, 12
Tooth's Spinal Cord, 9
Treves and Lang's German-English Dictionary, 14
Tuke's Influence of the Mind upon the Body, 5
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